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The Mighty Hudson

By Albert W. Atwood

With Illustrations by Staff Photographer B. Anthony Stewart

IT HAS been said that the Hudson is the most beautiful river in the world, a statement which no one can prove or disprove, since it is solely a matter of opinion.

True, the scenery along the Hudson is of unusual variety and interest, because of the alternate occurrence of mountains and tillable land. In places it is marked by grandeur; in others it is rugged, picturesque, or pastoral.

But it is the river itself, not so much the scenery along its banks, that impresses the beholder. From Albany it flows almost due south to the sea, calm, serene, and expansive, in lordly and majestic state.

But this is a very practical world, and the most striking single fact about the Hudson is the way in which it combines scenic beauty with historic association and sheer usefulness to mankind.

It is the primary cause of the greatness of New York City, metropolis of the Western Hemisphere and one of the two largest cities in the world.

This is because the Hudson, below Albany, is not a true river but a great extended arm of the sea, an estuary.

A Drowned Valley

This estuary is what is known as a drowned valley, the land having sunk millions of years ago, thus permitting the sea to enter the valley and back up to a great distance.

As a matter of fact, the river valley is so "drowned" that it extends in the other direction, as a deep submarine canyon, a hundred miles or more beyond the coastline and can be seen as a dark stripe from airplanes above.

It is from one to two miles wide, more than a thousand feet deep, and reaches to the very edge of the continental shelf. Submarine canyons are found elsewhere, one near the mouth of the St. Lawrence, and geologists have debated whether they were formed by erosion, submarine springs, or earthquakes.

Tides Reach to Troy

Tides reach up the Hudson to the very head of navigation at Troy, more than 150 miles. Being an arm of the sea, the so-called river appears to be a mighty and spacious stream, far out of proportion to the water it carries or the drainage basin which it serves.

Also, since it is remarkably straight and free from the usual type of river obstructions, it is not subject to serious floods.

Because of these peculiar physical conditions and the excellent harbor at its mouth, the Hudson has become one of the world's greatest commercial waterways (map, page 5).

At Troy the river's chief tributary, the Mohawk, enters, and the two river valleys form a huge L, or right angle, extending from New York to Albany and, via the Erie Canal, west to Buffalo. Along these two valleys are largely concentrated the commerce, industry, and population of our richest and most populous State.

Nowhere else from the St. Lawrence River to Alabama is there such an unobstructed, low-grade, water-level route through the Appalachian Mountain barrier as that afforded by the Hudson and Mohawk Valleys.*

It is thus no wonder that the first commercially successful steamboat was launched on the Hudson, that one of the first and greatest

* See "Drums to Dynamos on the Mohawk," by Frederick G. Vosburgh, National Geographic Magazine, July, 1947.

of America's railways followed its banks, that the Erie Canal was built between Albany and Buffalo, and that from earliest times trade and population have followed this natural course from the Atlantic coast to the Great Lakes and the interior.

River Begins as a Mountain Stream

But in the first half of its journey the Hudson is anything but a mighty commercial highway. For a long distance it is just a typical small, narrow mountain stream, following an irregular southward course from its source in the wildest portion of the Adirondack peaks, with many branches any one of which might be considered the main stream.

Now it brawls and dashes over high falls; now it trickles and winds in and out of a series of ponds, or small lakes, all in a most casual fashion, wholly disconcerting to anyone bent upon pinning down its precise geographical source.

Although its first sizable gatherings are in the series of small lakes, the Hudson's ultimate source is Lake Tear of the Clouds, a peaceful, shallow pond which lies between Mounts Marcy and Skylight, at an elevation of some 4,320 feet.

Lake Tear of the Clouds Itself is beyond the reach of highways, but the motorist can easily penetrate far into the upper country of the Hudson's pond sources.

If you step a few feet off the highway, even though only a few hours' ride from great cities and industries, you are in as much of a wilderness as when the Indians lived here.

There is almost immediate healing in these quiet, unspoiled, solitary spaces, and a sudden but welcome sense of both dignity and peace as one enters the Adirondack Forest Preserve, since no billboards disfigure the highway.

Near Newcomb, close to the lake sources of the Hudson, is a boulder along the road bearing this inscription:

"Near this spot, while driving hastily from Tahawus Club to North Creek at 2:15 a. m. Sept. 14, 1901, Theodore Roosevelt became President of the United States as William McKinley expired in Buffalo."

Roosevelt had been climbing a mountain; he was ten miles from the clubhouse where he was staying when he received the news to come at once to Buffalo. It was then almost dark, and a long time was consumed in getting a horse and buckboard. The drive over rough mountain roads to North Creek took until dawn, and no one dared tell the nervous Vice President, until he reached his train, that the President had died.*

The Hudson finally comes out of its mountain fastnesses into broad, open lowland. Passing the prosperous little city of Glens Falls, local insurance and paper-making capital (Plate XIII) and birthplace of Charles Evans Hughes, it flows almost directly south until it enters the sea at New York Bay.

At Schuylerville there stands high on a bluff a granite shaft in memory of the Battle of Saratoga, one of the most decisive military events in world history.

Shrines of Famous Men and Battles

Adorning three sides of the monument are statues of Generals Horatio Gates and Philip Schuyler and Col. Daniel Morgan. A vacant niche on the fourth side symbolizes the later treason of Benedict Arnold, although he, fully as much as any other general, won the Battle of Saratoga.

It had been planned that General Burgoyne, coming south across Lake Champlain from Canada, should join Lord Howe, coming up the Hudson, at Albany. Thus the Colonies would be cut in two.

But Howe failed to proceed up the Hudson, and Burgoyne's progress was slowed by an excess of heavy artillery and camp impedimenta. His opponent, General Schuyler, had 1,000 axmen fell huge virgin forest trees across the roads and also make an almost impenetrable morass by diverting streams.

This delay gave time for a great army of militia to join the American regulars and completely surround Burgoyne. France turned the tide still further in favor of the Colonials by joining them soon after getting the news of their victory.

In and near Fort Edward, not far from Schuylerville, the motorist will see several monuments to Jane McCrea. This young woman, on her way to Burgoyne's camp to marry a British officer, was murdered by her ignorant and quarrelsome Indian escorts, although they were employed by the British to bring her in safely.

Burgoyne deplored the act, and British Parliamentary opponents to the war with the Colonies made a violent attack upon the Ministry for its employment of Indians.

But the colonists used it to even greater effect, as propaganda against the British among the New York and New England farmers; and this was one reason why the militiamen of those Colonies turned out in such numbers to crush Burgoyne.

A few miles west of Schuylerville is Saratoga Springs, long one of the most famous

* See "New York State's Air-conditioned Roof," by Frederick G. Vosburgh, National Geographic Magazine, June, 1938.

Tidewater's Tremendous River Begins as Adirondacks' Trickling Trout Stream

Solitary Lake Tear of the Clouds is the Hudson's source. A tangled wilderness blocks all but the most determined visitors. This roadside sign, standing at Newcomb, tells a 15-mile fib. New York's Department of Public Works could plant the marker no closer to Lake Tear if it was to be of any value to motorists.

racing centers, convention resorts, and spas in the country (Plate XVI).

Its races, attended by much of the fashionable world since 1864, are conducted under the impressive title of the "Saratoga Association for Improving the Breed of Horses." In 1946 the County Board of Supervisors voted to impose virtually no other taxes because of the windfall from the tax on horse-race betting.

Saratoga still has about it an almost ante-bellum appearance. The largest of its hotels, once the world's biggest, presents much the same picture as it did in 1876, with incredibly vast dining room, porches, and lawns.

The old Casino in the midst of the city park was a celebrated gambling house until the reform administration of Governor Charles Evans Hughes; now the gilded halls are rented out for weddings and dances of Skidmore College girls. There are also a bus station and a museum.

"Mister," said one of the museum attendants, a woman with smiling Irish eyes, "you got in for 10 cents, but in the old days they wouldn't have let you in unless you could afford to lose $50,000 a night."

Southwest of town is New York State's great mineral-spring health resort. Of its three bathhouses, the Lincoln is one of the

Albany, Formerly a Lumber Center, Has Become the Preserve of Presidential Timber

Dutch Walloons founded the city in 1624. During the westward migration in 1795, some 500 wagons a day labored up State Street (center). The châteaulike New York Capitol crowns the hill. Scarcely a Governor does not dream of moving to the White House. Albany's business center is seen on a dull midmorning.

largest mineral-spring bathhouses in the world. There are a theater, hotel, golf course, swimming pool, Veterans' hospital, and beautifully landscaped grounds. Patients come from all walks of life and from all parts of the world. The month prior to my visit saw a total of 72,132 mineral-bath treatments given.

As we descend the Valley toward Troy and Albany, the fall in the river is used extensively for water power, and gradually the pastoral country gives way completely before the industrial and urban.

Troy was once an iron and steel center. Here Henry Burden, an early ironmaster, invented a machine which made most of the horseshoes used in the Union Army in the Civil War.

Troy has important educational institutions, including the Rensselaer Polytechnic Institute, one of the Nation's oldest existing schools of science and civil engineering.

But Troy is best known to the world as America's shirt and collar capital. I spent a profitable afternoon going through the main plant of Cluett, Peabody & Co., Inc., one of the largest manufacturers of shirts and cravats in the world. Collars are today only an incidental feature of this large industry, for collar-attached shirts and sport shirts, neckties, underwear, and handkerchiefs now constitute the great bulk of the business.

The company has donated to the Rensselaer County Historical Society an amusing collar museum that includes every kind of collar worn for several hundred years, from the ruff to the modern collar.

The detachable collar was invented by a Troy housewife, Hannah Lord Montague, probably before 1827. Her family went into the business, and was followed by many other small collar factories.

The making of shirts, 85 percent of which is done by women, is all piecework. Although it is not an assembly-line operation, the process is carried on with what seemed to me lightninglike rapidity.

Albany's Roll of Famous Statesmen

A few miles south of Troy, and rising sharply on its mounting hills on the west bank of the river, is Albany, which as capital of the Empire State is the most important government center next to Washington (pages 4 and 7).

Drawn by Theodore Price and Irvin E. Alleman

300 Miles Measure the Mighty Hudson →

Mountain-girt Lake Tear of the Clouds is the river's ultimate headwater. Cohoes sees its union with the industrialized Mohawk. Troy's 12-foot channel marks its head of navigation. For half its length, a fjordlike stretch from Albany to New York, the Hudson is "drowned" by the sea, tides reversing its flow daily (page 1).

Albany has been a chartered city since 1686. Despite the earlier establishment of Jamestown, Virginia, it is one of the oldest communities in the Thirteen Original Colonies continuously carried on, although it had four other names before "Albany" was adopted.

The fact that Grover Cleveland, Theodore Roosevelt, Charles E. Hughes, Alfred E. Smith, and Franklin D. Roosevelt served as Governors in Albany naturally has centered interest on the city.

Originally settled by the Dutch, Albany has retained vestiges of their culture for more than three centuries, but today its personality is largely set by its functions as State capital.

On the other hand, Albany is now and always has been, ever since aboriginal Indian trails crossed at its site, one of the major commercial crossroads and distributing points of America.

It is a great transportation hub, because major waterways, railways, and highways converge and intersect there. It is at once a bottleneck, a gateway, and a transfer point.

For one thing, it is the farthest inland of any port in the northeastern United States to which ocean-going vessels may proceed directly. It is close in point of transportation time not only to New York City but to Boston, Buffalo, and the Canadian cities. It is also important as a transfer point for mail.

On Albany's topmost hill rises the massive, ornate Capitol Building, a giant French château. On March 29, 1911, a severe fire in the capitol spent most of its fury in the section that housed the State Library, burning some 500,000 books and 300,000 manuscripts, one of the greatest library holocausts of modern times.

But the manuscripts that were saved, those that were salvaged enough to be fairly legible, and the accessions of a third of a century have combined to make the present library one of the Nation's treasure houses.

Among the rare manuscripts are the first draft of Washington's Farewell Address, his "opinion of the field officers of the Revolution alive in 1797," his tabulated statement of household expenses in 1789, and the preliminary Emancipation Proclamation of Abraham Lincoln, given out after the Union victory at Antietam.

An early director who helped make the institution great was Melvil Dewey, pioneer librarian, spelling reformer, and founder of the Lake Placid Club. One reason he went to Albany was the fact that in his previous position he was not allowed to train women to become librarians.

The huge State Education Building now houses both the State Library and the State Museum. In this building also originate the Regents' examinations, so well known to many school children, parents, and teachers.

On the grounds of the capitol is the old building of the Albany Academy, in whose empty auditorium during the summer vacations one of the early teachers, Joseph Henry, later the first Secretary and Director of the Smithsonian Institution, set up his electromagnets and made experiments which were an essential preliminary to the invention of the telegraph.

A Famous Colonial Home

In southeast Albany the State maintains one of the most famous of the country's fine Georgian colonial homes, now in surroundings quite different from those of its original baronial estate. It was built by Gen. Philip Schuyler, who was born into the Hudson River aristocracy, gained added wealth and prominence by marrying into the Van Rensselaer family, and had a distinguished career as military leader and public official (Plate IX).

The halls are so wide that large parties were held in them. General Schuyler's daughter Elizabeth married Alexander Hamilton in the parlor at the left of the main entrance, and one cause of the General's death was his shock at the news that Hamilton had been killed by Aaron Burr.

General Burgoyne was entertained in the house after his capture. Although a gathering place for armies, Albany was never taken by an enemy. But a small group of ruffians and hostile Indians, bent on capturing General Schuyler, managed to enter the house; they fled when the General called out the window to his bodyguard, the smallness of whose numbers the raiders did not realize.

The main stair rail bears the cut from a tomahawk flung by an Indian at the General's daughter Margaret who, with an infant in her arms, was fleeing upstairs.

Across the river in Rensselaer, close to the water's edge, is Fort Crailo. Possibly more than any other structure in the State, it carries one back to the earliest days of colonial New Netherland, of the Dutch West India Company and its patroons (Plate IX).

Beside the well in the back yard, according to tradition which is not supported by evidence, Dr. Richard Shuckburgh, a British army surgeon, wrote the words of our famous national air, "Yankee-Doodle," being inspired by the motley appearance of the American troops gathering there to assault the French at Ticonderoga (page 15).

Though It Stands 150 Miles from the Sea, Albany Flourishes as a Tidewater Seaport

Henry Hudson's *Half Moon* (1609) and Robert Fulton's *Clermont* made nautical history at Albany. In 1831 some 15,000 canalboats and 500 sailing ships tied up at city wharves. A century later the Port of Albany was completed at a cost of $13,000,000. Each year it handles some 250 ocean-going vessels. They rise and fall more than four feet as tides change the direction of the Hudson's flow. This excursion boat passes one of the world's biggest grain elevators (pages 4 and 5).

As a matter of fact, the origin of the tune as well as of the words of "Yankee-Doodle" is uncertain.

It is a great mistake to travel between Albany and New York solely by rail, auto, or plane. To really know the rivet, it is necessary to go, at least occasionally, by boat.

Albany itself is a deep-sea port, comparable to Portland, Maine, and to Providence, New Haven, Savannah, and Mobile. Although molasses from Java and Cuba, canned fruit from Hawaii, and canned fish and lumber from the Pacific coast come directly by ocean carrier, the major commodities brought to Albany by seagoing vessels are grain and petroleum products.

It is one of the major grain ports of the country and one of the largest shipping points for petroleum products on the Atlantic seaboard.

When Sloops Plied the River

For two centuries the Hudson's chief means of transportation, and for a century its only means, was the sloop. By taking the tide on the first of the flood at the Battery in New York City, and provided the wind remained southerly, sloops could make Albany in 24 hours.

As a matter of fact, an unfavorable tide with a northerly wind so delays modern steamships in reaching Albany that owners have been known to upbraid their captains because of their slowness.

Uncle Sam's "Medicine" for Ailing Europe Lies Heaped on New Jersey Railroad Piers

Port of New York Authority

Port of New York Handles Four Times the Cargo Tonnage of Any United States Ocean Harbor

Photo from N. Y. Co. Ice Assn.

The Coast Guard Cutter *Genesee* Plows a Tiny Furrow Down the Solid Hudson

[illegible] across river; thousands of men made a living sawing ice cakes. In these winters, when shivering up State [illegible] habitat. One icebreaker spent 55 hours shepherding two Lakers from Albany to New York.

"The sloops which ply the Hudson," wrote the poet N. P. Willis in 1840, "are remarkable for their picturesque beauty, and for the enormous quantity of sail they carry in all weathers, and nothing is more beautiful than the little fleets of from six to a dozen, all scudding or tacking together, like so many white birds on the wing."

Once Sailboats Brought New York's Food

At one time a large part of the produce on which New York City subsisted came down the river in sailboats, and the horses' feed came in "hay barges." Indeed, the city itself was largely built from wood, stone, brick, and cement that used the same waterway.

Lake Albany is a geologist's name for a large body of water which, as the Ice Age was ending, lay between the Hudson Highlands and Lake Champlain. It left a wonderful deposit of clay, with the result that brickyards have long been a feature of the west bank of the river.

Completion of the Hudson River Railroad and the use of "tows," barges or canalboats [illegible] Today freight on the river is carried by ocean-going tankers and freighters as well as tows.

But it was the passenger boat, beginning with Robert Fulton's *Clermont*, the world's first steamboat to attain any degree of practical commercial success, that gave the Hudson so much of its glamour and fame.

Indeed, after the courts broke up the river monopoly of Fulton and Robert R. Livingston, competition among steamboats on the Hudson

reached the point of utter demoralization. Fares from New York to Albany fell to 10 cents, sometimes to nothing; competitors raced on every occasion; and boiler explosions were common.

Safety barges, called "lady boats," which could be cut adrift in case of accident, were towed behind the regular boats and passengers on them charged a higher fare.

Passage of the Federal steamboat inspection act in 1852 ended dangerous practices. One of the most famous and long-lived of the boats, the *Mary Powell*, is said never to have had a serious accident or lost a passenger.

The *Mary Powell's* whistle, as well as the bell of the original *Clermont* and a letter from Robert Fulton, is on exhibition in the *Robert Fulton*, one of the fleet of large passenger boats operated by the Hudson River Day Line. This company still engages in passenger transportation on a large scale although many other lines, including the night lines, have gone.

The Hudson River Day Line, like its predecessor companies, has been under the management of the same family for five generations. Alfred V. S. Olcott, president, said to me, with pardonable pride, as we stood on the company's dock at the foot of West 42d Street, New York City:

"On a Sunday morning we have taken 10,000 passengers away from here, in three or four boats, in an hour and a quarter."

Although the Hudson Valley is one of the most populous areas in the country, there are long stretches of marshland below Albany so free of mankind that the beautiful American egret feels at home here. In summer it can be seen in large numbers from railroad and boat alike.

Hudson, the first sizable community below Albany, was a considerable whaling port prior to the War of 1812, although more than 100 miles from the ocean. In population it was once the third city in the State.

At 11:15 a. m. the southbound day boat ties up at the Hudson wharf, and at precisely the same moment the northbound streamlined Empire State Express sweeps gracefully and swiftly around the curve, only a few feet away.

A View of the Catskills

From Parade Hill in Hudson one gets a magnificent view of the Catskills, which dominate this portion of the Valley much as Manhattan's skyscrapers dominate the metropolis itself.

These mountains stand 2,000 feet or more above the land below, this elevation being largely precipitous and sheer. Long inaccessible, the mountains remained a land of terror to the Dutch settlers, because of Indians, ghosts, and wild animals, especially catamounts, the "cat" in Catskill coming from this animal.

Some early fortunes, such as that of John Jacob Astor, were built on furs, including the Catskill catamounts.*

The Catskills have been forever immortalized by Washington Irving in his tale of *Rip van Winkle*. He wrote of them:

"Of all the scenery of the Hudson, the Kaatskill Mountains had the most witching effect upon my boyish imagination. Never shall I forget . . . the first view of them predominating over a wide extent of country, part wild, woody, and rugged; part softened away into all the graces of cultivation."

The gullies and ravines in the Catskills bear the old Dutch name of "clove," and in the same way the streams are known as "kills." There are some 40 kills in the Catskills.

Possibly 2,000 people went to the "mountains" for summer vacation in 1870; today the figure is nearer 500,000 (page 15).

Kingston, metropolis of this region, is an old settlement, being a combination of Wiltwyck, chartered in 1661, and Rondout, at the mouth of Rondout Creek (Plate VII).

It played an important part in the early history of the State, and despite the bustle incident to being gateway to a huge vacation land and the fact that New York City's garment trades are now invading it in search of space and labor, it retains much of its earlier atmosphere.

A Bizarre Mushroom Cave

Prior to the coming of artificial ice and electrical refrigeration the west bank of the river, especially between Coxsackie and Saugerties, was lined with huge icehouses, nearly 5,000,000 tons of ice being gathered in a good year. A few of these buildings are now used to grow mushrooms.

Mushrooms also are grown extensively from spawn in great caves in and near Kingston, from which limestone and cement have been removed. I visited one 10-acre cave containing 30,000 trays of mushrooms, each tray 2½ by 4 feet. Of the three yearly crops, about 75 percent is used for canning and 25 percent for the fresh market. They are picked daily. Production in the Hudson Valley averages 50,000 pounds a day.

The workers dress like miners, and the temperature stays at 55° F. the year round.

* See "Romance of American Furs," by Wanda Burnett, NATIONAL GEOGRAPHIC MAGAZINE, March 1948.

For 2 Spectacular Miles the Perpendicular Palisades Tower Like Fortress Walls along the Hudson's West Bank

[illegible]

A. A. Students Line the Highway Approach to Woodstock and Transfer Overlook Mountain, One of the Catskills, to Canvas

[illegible]

To Block Enemy Warships, West Point Strung These Links Across the Hudson in 1775

View looking downstream from Fort Montgomery [illegible] 1777. A British fleet attempted to force the passage, but was [illegible] by the fire of [illegible] Americans. Two hundred years later, the West Point chain [illegible] Hudson River [illegible] broken (page 33).

Directly across the river in Poughkeepsie, I called on Ethan A. Coom, "Violet King" in his office on what is sometimes called Violet Avenue, for Rhinebeck is a leading center of the commercial violet industry.

Mr. Coom told me that he had shipped as many as [illegible] pots of violets to every part of the United States. In one season he had more than 60 greenhouses [illegible] 60 violet plants. Picking began about the middle of October and extended to Easter, with one to 20 flowers a week per plant, depending on the season.

The Rhine Valley is now intensively occupied by peoples of diverse national and racial origins. One interesting example is a colony of Italians in the Marlboro section between Kingston and Newburgh, on the west bank. They cultivate fruits, especially [illegible] and [illegible].

The Valley was originally settled by the Dutch. The Dutch West India Company carved out the land [illegible] on the east bank, in enormous patroonships or manors to such families as the Van Rensselaers, Livingstons, and Van Cortlandts.

This [illegible] was later confirmed and extended by the English [illegible] it. Large tracts have long retained much of their original beauty. As pointed out by the American Scenic and Historic Preservation Society, the huge estates, particularly during the 19th century, were dedicated to conservation when the word was still unheard of.

Furthermore, there grew up in the Valley a [illegible] and [illegible] the importance of beautiful surroundings . . . Even when the large estates were broken up . . . the culture and tradition remained.

Proof of this statement is the fact that the first group of landscape artists in this country who were able to earn a living [illegible] landscapes, without having to depend on historical and portrait painting, were [illegible] the so-called Hudson River School, beginning [illegible].

The term, Hudson River School, was [illegible] that the large group [illegible] by Thomas Cole, confined their work to the Hudson Valley. [illegible] the Catskills, they painted scenes in the Berkshire Mountains, and elsewhere. Their vogue, however, ended in the seventies.

It is impossible to indicate in any general

Legend Says Fowler-Drawer Was Written on the Wall Cards of Fort Crailo, Rensselaer [illegible] the French and [illegible] Fowler [illegible] to have [illegible] Dear [illegible] proudly [illegible]

[illegible] to name, the famous and wealthy people [illegible] love along the Hudson. [illegible] were made [illegible] Valley [illegible] New York City [illegible] those who made money had to have a country estate on the Hudson [illegible] like English gentry.

The Valley [illegible] for such purposes [illegible] have been broken up or turned into educational and religious institutions.

[illegible] And in the whole territory between Poughkeepsie and New York City there are [illegible] 7,000 commuters, and 50,000 on the west bank between Weehawken, New Jersey, [illegible] Edgewater.

An extraordinary number of rare old buildings [illegible] Ulster County alone with Kingston [illegible] to [illegible] of the [illegible] stone houses in the United States.

French Huguenots [illegible] settled New Paltz [illegible] Kingston [illegible] streets [illegible] of the original stone houses remains (Plate VIII). For a century New Paltz was ruled by the Dubois, a body of 11 men elected yearly.

One [illegible] typical of the early Dutch dwelling [illegible] Pieter Bronck House, [illegible] other two [illegible] houses, close to the main highway on the west bank near West Coxsackie between Albany and Catskill.

It was [illegible] of the family after whom it [illegible] and long occupied by the [illegible]

Curiously [illegible] form of construction [illegible]

In 1849 Orson Square Fowler, a pioneer in the phrenology [illegible] advocating the erection of octagon houses and many of these octagon houses were built [illegible] the Hudson Valley [illegible] Possibly the builder of the [illegible] to [illegible] sales boom.

Many [illegible] on the New York Central Railroad have probably seen the Van Cortlandt Manor House [illegible] Croton-Hastings [illegible] Croton Reservoir [illegible] Croton Point.

Lying close to the mouth of the Croton River, this is one of the oldest of the existing manor houses, and very little changed in appearance. It may have been built about 1653 as a refuge and a fort, and the loopholes through which fire was exchanged with the Indians are very evident.

The Van Cortlandt family owned and occupied the house for almost 300 years. In 1945 it was purchased by other private owners, who live in the residence and open it to the public at stated intervals.

The present owner told me that the gardens had been cultivated continuously since 1700. Both house and grounds have about them a distinct and authentic charm, of the simplicity characteristic of very early pioneers.

Hyde Park Now a Historic Site

On April 12, 1946, the first anniversary of her husband's death, Mrs. Franklin D. Roosevelt turned over to the National Park Service the house in which the late President was born and reared, near Hyde Park, a few miles north of Poughkeepsie; also his near by grave and a large portion of the grounds. Adjacent is the Franklin D. Roosevelt Library, administered by the Archivist of the United States (Plate XI).

In the two years which have elapsed, the house, grave, and Library together have become one of our great national historic sites. As many as 10,000 visitors from all parts of the world enter the grounds in a single day, although for safety reasons only 2,500 persons can enter the house, with 75 admitted at one time.

Their attitude is reverent; many weep, kneel, and pray in front of the white marble tombstone, which has no decoration. The marble came from the same Vermont quarry that produced stone for the exterior of the Thomas Jefferson Memorial in Washington.

Outside the house there is usually a long queue, even in the rain, waiting to get in. Inside they see, among other rooms, the late President's bedroom, just as he left it, and his favorite view down the river to the railroad bridge at Poughkeepsie.

The people who come ask countless questions. When I was there, question number one was, "Where is the kitchen?" Number two was, "Where does Mrs. Roosevelt live?"

The Library is filled with books, papers, and other [illegible] President. In the basement are the gifts and [illegible], some very quaint indeed, given to him. At the time of my visit the Library had already acquired more than 5,000 cubic feet of manuscript material. It is hoped to make the Library the foremost research center for material concerning Mr. Roosevelt and his era.

Below Poughkeepsie, seat of Vassar College, is Newburgh, on the opposite side of the river, rising high above the water in a series of terraces. It is the northern approach to the Highlands, where the Hudson breaks through the Appalachian Mountain wall.

The little Jonathan Hasbrouck House in Newburgh was the first historic site taken over by the State (1849). It was Washington's headquarters for more than a year (Plate VIII).

Here he wrote a stinging rebuke, in his own hand, to Col. Lewis Nicola's suggestion that a monarchical form of government be adopted. Also, as his last official communication before resigning his commission, he wrote to the governor of each State, enumerating the essential principles to be followed if the new Nation was to survive.

Washington's army was encamped for a long period at New Windsor, south of Newburgh. In a large wooden structure, the "Temple," leading officers discussed the formation of the Society of the Cincinnati, which became the model for a large number of patriotic societies.

Although the society contained many of the great leaders of the Revolution, it was strongly opposed at first by John Adams, Samuel Adams, Benjamin Franklin, and especially by Thomas Jefferson. However, it has persisted. Present members are male descendants of Washington's regular line officers.

The river becomes narrow as it penetrates the Highlands and winds for 15 miles between high, rocky, sparsely settled and wooded shores of elemental and majestic beauty, except in a few places where quarrying has made hideous gashes in the mountainside.

At no point are the Highlands more than 1,500 feet in height, but they rise so steeply and massively from the river bed that they appear more impressive than many mountains of far greater altitude.

Close as the Highlands are to that populous metropolis which we call New York City, these hills still contain mountaineers living under primitive conditions.

Bear Mountain Bridge

The Hudson is so deep in the Highlands area and so broad elsewhere that bridges are very difficult and costly to construct. For several centuries the river was a great barrier to travel. Communities on the east and west banks had no communication except by ferry.

Not until 1889 was any bridge built below Albany, and the first vehicular crossing was

[illegible]

From Redbox's Island, Proposed at the Statue of Liberty, Vistors Service Modifications Series of Steel and Concrete

Entrepreneurs Flock to the Bill of a Clerson Kroll Lines to Assume the *Queen Mary* at Her New York Dock

Graduates Softly Line the Floor and Receive Their Parading Schoolmates

Bear Mountain, One of New York's Most Popular Playgrounds. Lodge Dwarfed in the Forested Hudson Valley

Kingston, Ulster, New York's First State, May 21, 1777

West Point: Mothers and Fiancees Carry Graduates' Diplomas

▲ Artist Ivan Evers Entertains Young Visitors in His 230-year-old New Paltz Home

In Jonathan Hasbrouck House, Newburgh, George Washington Reputedly Slept ▼

▲ [illegible]

Children's Daughter Remembrances of Nursery [illegible] Schuster Mansion Album

[illegible]

In Northeastern Forests, Maine with Autumn Colors, by the Headwaters of the Hudson

Since President Roosevelt's Death His Home Has Become a National Historic Site

Where Ice Mountains Bridge Stems the Hudson: Dry Towers Discharge Passengers and Trains Speed up the Valley

Pueblo Covers and Textured Wallpaper Are the Colorful Creations of a Glens Falls Firm

Sky Top Lodge Overlooks Mohonk Lake, Rondout Valley, and the Hazy Catskills

Mohawk Lake Restricts Motor Traffic; Some Guests Arrive in Horse-Drawn Carriages

Dolls in Kindersbook's House of History Represent Hudson River Notables

Silky Dress and Exquisite Lounge Hose Lace on Stretched Spandex

Savage Beauties, Obviously Not Health Seekers Hence a Mecurial Spray

the Bear Mountain Bridge, built in 1925 (Plate XII). There are even now only four such bridges below Albany, the largest being the George Washington Bridge, in the upper part of New York City and the only Hudson bridge near the city.

In the heart of the Highlands the river makes a double angle, and on the high promontory or plateau thus created stands the United States Military Academy, commonly known as West Point.

There is no town, or even village of that name, despite a total population of 7,000: it is an Army post, the oldest over which our flag has continuously flown, and perhaps most frequently visited in the country. It became a military academy shortly after the Revolution.*

The chapel, library, museum, and much of the grounds are open to the public and provide unusual interest to every patriotic American.

Many famous men have graduated from or attended West Point. The list includes leading generals in the Civil War, also Pershing, Arnold, Eisenhower, Bradley, MacArthur, and, strange to relate, Edgar Allan Poe and James A. McNeil Whistler (Plates IV, V, and VII).

Early in the Revolution, Washington recognized that West Point was the key to the line of the Hudson, which in turn was the Colonies' main line of defense. By his orders, Thaddeus Kosciusko, Polish engineer, completed the construction work here.

Among the defenses were two great iron chains stretched across the river between West Point and Constitution Island and between Fort Montgomery and Anthonys Nose, six miles below West Point. The one at West Point was taken up in the fall, although some of the links weighed as much as 300 pounds each. Several are to be seen on the grounds at West Point and in various historical societies and museums (page 14).

A great element of strength was the fact that the square-rigged British ships could not make the zigzag turn without altering course and thus losing headway in attack.

From across the river the gray, massive, granite fronts of the Military Academy buildings rise in tiers up the steep hillside, as if they were a very part of the solid rock terraces themselves.

Against the contrast of the almost wilderness-like area around them, the many different buildings, not always of the same architectural style, seem somehow blended into one huge Gothic military unit.

As we descend the river and approach the metropolis itself, cities and towns are closer together and so numerous as to make distinctive description difficult. But let us stop at the Tarrytowns long enough to savor the spell of romance which Washington Irving cast over this region.

Tarrytown and many near-by towns look out upon the Tappan Zee, one of the broadest, most lakelike expanses of the Hudson, described by Irving as a "dusky and indistinct waste of waters."

The Spell of Sleepy Hollow

Washington Irving was the first American writer of international rank. His *Knickerbocker's History of New York* and his tales, *Rip Van Winkle* and the *Legend of Sleepy Hollow*, were the first works which led Europeans to realize there was such a thing as an American author.

Irving's grave is toward the summit of the hill, on a beautiful sunny slope in the old Dutch burying ground of Sleepy Hollow, along the main highway in North Tarrytown. A huge oak stands guard over the grave, and the only inscription reads as follows:

Washington Irving
Born April 3, 1
Died Nov. 28, 1-

Colonial settlers, Indians, Revolutionary patriots, British soldiers, and Negro slaves rest in the burying ground. Irving wrote that the "sequestered situation of this church seems always to have made it a favorite haunt of troubled spirits," and he told how the Headless Horseman, villain of his famous tale, "tethered his horse nightly among the graves."

With the near-by stream of motor traffic on No. 9, main artery on the east side of the Hudson, ghosts now have very little chance. But the burying ground and church both seem singularly unspoiled. The church is one of the oldest in the State and one of the few distinctly Dutch bits of construction remaining.

Recently the sagging timbers and crumbling masonry of the church had to be repaired, and gifts for the purpose came from all over the country, some from Italian, Slovak, and colored groups. The congregation now worships elsewhere, but the old church is used for weddings and funerals.

Not far below it the Little Pocantico River comes down from the hills and meanders into the Hudson. John D. Rockefeller, Jr., whose father lived so long at his Pocantico Hills estate, has restored one of the leading manor

* See "West Point and the Gray-clad Corps," by Lt. Col. Herman Beukema, National Geographic Magazine, June, 1946.

houses, 1115 Pine Castle, on the banks of the Pocantico between the highway and the Hudson, as well as a gristmill and a bridge.

To this 24-room "Castle" Frederick Philipse's tenants, all the way from Manhattan Island to Croton and as far east as Connecticut, came to pay their rents, and his vessels sailed up the Pocantico to the manor house. Philipse was a master builder, merchant, real estate dealer, fur trader, and reputed backer of Captain Kidd and other illicit ventures.

The house has had many owners, including Elsie Janis, actress "sweetheart of the AEF" in World War I. The present building has a memorial room dedicated to John D. Rockefeller, Sr., in which are his desk, "Ledger A," and other personal belongings.

Washington Irving's Sunnyside

Mr. Rockefeller, Jr., has also restored Sunnyside, the longtime home of Washington Irving, only a few hundred feet from the river, at the borderline between Tarrytown and Irvington. Irving bought the place in 1835 when it was only an old Dutch cottage; he once described it as an "elegant little snuggery."

Irving greatly enlarged the house and said that it was "all made up of gable ends and as full of angles and corners as an old cocked hat." He loved its nooks, crannies, alcoves, passages, and closets.

Sunnyside is a mirror of American life and taste in the period 1835-60. The grounds, as restored, are very beautiful indeed. Irving never married, but the house came down through his family until Mr. Rockefeller bought it a few years ago from a great grandnephew. With it he obtained about 90 percent of all authenticated Irving items, including furnishings and personal library.

A son of Alexander Hamilton built a home, Nevis, at Irvington. The 67-acre property is now owned by Columbia University and used by several of its units. One of them, the nuclear physics research center, is installing what will be, when finished, one of the world's most powerful cyclotrons, to explore still deeper into the secrets of the atom. Our Navy is cooperating in its building, through the Office of Naval Research.

At the border between the two Tarrytowns is a monument marking the spot where Maj. John André was captured by three American irregulars. He had secreted in his boot some papers describing the defenses of West Point and sold to him by the commander of that garrison, Benedict Arnold, who had turned traitor.

André met Arnold in a house just south of West Point, going there by British warship. But the vessel was driven off by American artillery fire and André had to return to New York overland by horse. Unfortunately, he took off his British uniform and put on a disguise, for which reason he was executed as a spy after trial by an American court-martial (opposite page).

Some 40 years later his remains were taken from a grave on a hill at Tappan, New York, close to the New Jersey line, and removed to Westminster Abbey. The inscription on the monument of his Tappan grave is significant indeed:

> His death, though according to the stern code of war, moved even his enemies to pity, and both armies mourned the fate of one so young and so brave . . . This stone was placed above the spot where he lay by a citizen of the States against which he fought, not to perpetuate the record of strife but in token of those better feelings which have since united two nations in race, in language and in religion, with the earnest hope that this friendly union will never be broken.

The Majestic Palisades

Extending, in what looks like an unbroken line to the river traveler, from a point south of Haverstraw to about the end of the George Washington Bridge are the Palisades, dark, grim, and majestic. From the eastern shore they seem to be the ramparts of an incredibly vast fortress (page 12).

This front is a great sill of traprock, a lava filling between two parallel layers of sandstone; there are only a few other similar formations in the world. It is not really a flat-faced wall but a series of impregnable rocky battlements and occasional tiny valleys. It rises almost perpendicularly from near the water's edge and averages 350 to 550 feet in height.

The Palisades separate the valleys of the Hudson and the Hackensack, which flow parallel for 30 miles; a continuation of the Palisades is the ridge on which Jersey City is built. The name may have been given by an early explorer because of fancied resemblance to the log palisades which surrounded and protected colonial settlements.

The sheer ruggedness of the Palisades preserved them until the middle of the 19th century, when quarrying of the stone and lumbering on the summit threatened to bring down the foreground of New York City's western view in ruins before its eyes.

The vigilance of the New Jersey State Federation of Women's Clubs and the generosity of J. P. Morgan, George W. Perkins, and John D. Rockefeller, Jr., saved most of

The House, Maj. John André's Dungeon, Stands near Tappan

[illegible]

Palisades. In this way it is hoped to preserve the scenic features, rather than detract from them, and to provide greater police protection, at the same time opening the park to many thousands of people.

The Hudson River finally empties into New York bay at the lower end of Manhattan Island. The short stretch near its mouth is known as the North River, an early Dutch designation to distinguish it from the Delaware, or South River.

The Port of New York

The Port of New York is one of the largest in the world. It has eight major bays, 650 miles of water front and 2,000 piers, wharves, and bulkheads serving vessels of many different nations. Before the war this port handled half the value of our foreign trade and nearly two-thirds of the passengers and mail entering and leaving this country (Plates II, III, and pages 8-9).

It is true that the Hudson, as the chief cause of the greatness of the Port of New York, has in turn made the city great. But it has also prevented, partly because of its width and depth, the tracks of all but one of numerous railroads from entering the city from the New Jersey side, and those for passengers only.

As a result, the movement of goods within the port, both for world-wide trade and to supply the vast city itself, is done by lighterage—that is, by tugboats, barges, lighters, car floats, and the like.

A car float or a tugboat with barges in tow can tie up on either side of a pier, or berth alongside an ocean-going vessel at the pier, and still leave plenty of room in the broad Hudson.

Thus the lower Hudson differs from any other port in the United States, if not in the world, in the great number of local harbor craft, several thousand in all, that daily ply its waters.

The most picturesque of the local craft, however, are not the freight tows but the hundreds of ferryboats that shuttle passengers back and forth across the river.

Stevens Institute of Technology, a leading engineering school, stands on Castle Point in Hoboken, directly across from lower Manhattan. It was founded by a son of John Stevens, brilliant inventor and pioneer of steam transportation.

John Stevens bought Hoebuck, or Hoboken, in early days and, dissatisfied with the slowness of rowboats and sailboats to Manhattan, built the first steam ferry in America, in September, 1811.

Although he was thwarted by Robert Fulton's Hudson River monopoly in his desire to operate a line of steamboats between New York and Albany, the rivalry between the two inventors resulted in great improvements. Some now taken for granted are thought to have originated in the fertile minds of either Fulton or Stevens.

They include the double-end ferryboat, which obviates the necessity of turning about; and the floating bridge, which at each landing place is raised and lowered with the tide by means of weights and pulleys.

To Colonel Stevens' second son, Robert Livingston Stevens, is credited the modern ferry slip.

Modern Ferries

Early ferries were owned and operated by individuals; today most are operated by the trunk-line railroads or the City of New York. The modern ferry is sturdy and powerful, to resist ice floes and occasional collisions.

Although they pass one another hundreds of times a day, the ferries have only once in [illegible] as to race. In 1900 two Hoboken boats took a day off and raced to Newburgh and back.

Swift as modern ferries are, they are far too slow for many people, and thus tunnels under the river continue to increase.

However, the ferries still carry enormous numbers of passengers. One company alone, in a comparatively recent year, handled more than 15,000,000 passengers; another conveyed 11,000,000. One of these companies operated 15 boats.

From very earliest childhood I have crossed and recrossed the Hudson.

The sharp tang of clean, salt air, a sudden dash of spray if one stands too close to the forward end, the hard clang of chains as the bridge is raised or lowered at the beginning and end of each trip, the screaming gulls, the plodding or scudding harbor craft, the vessels from every port, the gray men-of-war, an occasional glimpse of the *Queen Mary* or *Queen Elizabeth*, and the towering battlements of Manhattan—after many, many years such sights and sounds and smells still mean romance and adventure for me and for countless others.*

* For related articles, see, in the NATIONAL GEOGRAPHIC MAGAZINE: "New York—An Empire Within a Republic," by William Joseph Showalter, November, 1933; "This Giant That Is New York City," November, 1930, and "Spin Your Globe to Long Island," April, 1939, both by Frederick Simpich; "Sand in the Shadow of Skyscrapers," by Dudley B. Martin, March, 1947; and "Henry Hudson, Magnificent Failure," by Frederick G. Vosburgh, April, 1930.

Artists Look at Pennsylvania

By John Oliver La Gorce

PENNSYLVANIA, Titan among States, [illegible]

For a year and a half, fourteen of America's leading artists roamed the Keystone State, studying its industries, scenic beauties, folkways, and historic monuments. Some set up easels and completed their paintings on the spot; others retired to the seclusion of studios to transfer their impressions from sketchbook to canvas or water-color paper.

The composite result is an objective, full-length portrait of Pennsylvania. In the 116 oils, water colors, and sketches are a series of images such as might linger in the mind of one who had traveled the Commonwealth's 67 counties from Adams through York, from the New York line in the north to Maryland in the south, from the Delaware River in the east to the Ohio border in the west.

Sixteen of the paintings, in full color, are reproduced in this issue of the National Geographic Magazine.

Dominant theme of the collection as a whole is Pennsylvania's mastery of the resources which Nature provided in such abundance.

In industry, commerce, transportation, and agriculture the artists selected the subjects most adaptable to dramatization. Yet Pennsylvania's historic background was not neglected, nor was pastoral beauty, nor the rich folklore of the southeastern counties, inhabited by the "plain people."

A State Story on Canvas

These paintings, outcome of the new and growing alliance between art and trade, were presented to the people of Pennsylvania by Gimbel Brothers, operators of large department stores in Philadelphia, Pittsburgh, and elsewhere. The Gimbel firm underwrote the cost of the project in the belief that such a documentation would be of lasting interest and value and would be a factor in spreading the story of the State and of the vigor of its citizens throughout the country.

Arthur C. Kaufmann, executive head of the Gimbel store in Philadelphia, and the late Jacques Blum, of the Pittsburgh store, were directly responsible for the project, and their idea was readily approved by President Bernard F. Gimbel, of New York, and the board of directors of Gimbel Brothers. Governor James H. Duff and U. S. Senator Edward Martin headed a sponsoring committee which included many of Pennsylvania's most prominent citizens.

Once the plan had been conceived, the selection of artists and other details were turned over to the Associated American Artists, in New York.

History is full of instances in which celebrated works of art were made possible by the generosity of merchants. Despite this, painters and sculptors, to guard their integrity and independence, frequently shun patronage by commercial institutions. Too often, they say, the patron demands gratification of his own whims or tastes, or fails to recognize the difference between artistic and lay viewpoints.

Artists Given Free Rein

The artists commissioned for the Pennsylvania project were given free rein. There were no restrictions, no grinding of business axes, no conscious efforts to flatter regional or community pride, no injunctions to avoid the unsightly or to portray beauty where none existed.

"Paint Pennsylvania as you see it," the artists were told, in effect, by Robert L. Parsons, executive director of the Associated American Artists, when he arranged the assignments. This was in accordance with the policy laid down by the sponsors.

"Go down into the coal mines, into the steel mills, the factories, the shipyards. Travel the broad highways and the remote country roads. Look at the busy waterways and the quiet trout streams. Study the people in their homes and at work and play."

When the painters set forth to study Pennsylvania, they found themselves in a treasure house perhaps unrivaled anywhere in America. Here is a kingdom of contrasts which inspired Rudyard Kipling, after a tour of the United States, to write in "Philadelphia":

> They are there! they are there! Lives with Earth immortal citizens, I give you friendly warning!
> The things that truly last when men and times have passed,
> They are all in Pennsylvania this morning!

An apt nickname for Pennsylvania is "Workshop of the World," for it leads the Nation in 50 important industries and in producing nearly every ingredient of heavy industry.*

An outstanding exception is petroleum; yet it was in Pennsylvania, at Titusville, that Col. Edwin L. Drake drilled the first successful

* See, in the National Geographic Magazine, by John Oliver La Gorce: "Penn's Land of Modern Miracles," July, 1935; and "Industrial Titan of America: Pennsylvania," May, 1939.

oil well in August 1859. Today the wells of northwestern Pennsylvania produce only a small fraction of the national total, but their high-quality crude remains one of the finest bases for lubricating oils.

Steel, pig iron, coal, stone, cement, coke—these are potent names in an industrial age. Pennsylvania leads the Nation in the production of them all. It is also a large producer of a long line of less spectacular items ranging from ice cream to pretzels and cigars to lace goods.

Ninety-nine percent of the Nation's anthracite comes from Pennsylvania mines, and nearly 25 percent of its bituminous. Pennsylvania produces 20 percent of this country's power output from all sources. During World War II the State's mills surpassed those of Germany proper in the production of ferrous metals.

A Leader in Agriculture, Too

Few persons think of Pennsylvania as a great agricultural State; yet its 9,240,000 acres of tilled farmland are more than are under cultivation, in normal times, in England and Wales, or in Ireland or Sweden. The State ranks third in farm income from dairy products and grows every important commercial crop raised in the United States except cotton, citrus fruits, peanuts, and sugar cane.

From dark, warm nurseries in Delaware and Chester Counties come more than half of the Nation's mushrooms.

Lancaster County, where the frugal "Pennsylvania Dutch" have long pioneered in crop rotation, is among the ten richest farm counties in the country. The average size of these farms is among the smallest, but their produce is among the richest.

Philadelphia and Pittsburgh give Pennsylvania the distinction of being the only State to possess two of our ten largest cities, but the majority of Pennsylvanians do not live in these cities. There are many small cities and towns in Pennsylvania, and the rural population is second largest among the States.

Covering Pennsylvania is a network of railroad mileage larger than that of New York and New Jersey combined. Within its borders are principal installations of one of the Nation's largest railroads, the Pennsylvania, and the oldest to be opened for public traffic, the Baltimore & Ohio.

So many persons come annually to see Pennsylvania's wonders and historic shrines that tourist travel is the State's fourth business.*

Some 87,000 miles of highways lead vacationists to Pocono and Allegheny Mountain playgrounds. Pennsylvania has more than 250 lakes and at least 100 waterfalls. A section of Lake Erie offers fresh-water bathing and fishing. A dozen caverns are open to the public. On 857,000 acres of State game lands, bought from the sale of hunting and fishing licenses, are hiking trails, campsites, and trout and bass streams.

Wild Game Conserved

As the result of a model conservation policy, Pennsylvanians today have more wild game than the Indians had. The annual bag, computed in tons, includes deer, black bear, ruffed grouse, pheasants, quail, woodcock, wild turkeys, and a variety of migratory birds. The State Game Commission restocks about 7,500 miles of fishing streams every year.

All of the 14 painters in the project have achieved national or international reputations. Five are native or adopted Pennsylvanians. One of these, Hobson Pittman of Upper Darby, is represented in the works reproduced in the NATIONAL GEOGRAPHIC MAGAZINE. The collection as a whole includes eight paintings by Pittman. Other artistically gifted Pennsylvanians who contributed their talents are George Biddle, Albert Gold, Franklin Watkins, and Andrew Wyeth. The latter is the gifted son of the late N. C. Wyeth, who painted several murals for the Library of the National Geographic Society.

Paul Sample, native of New Hampshire and artist-in-residence at Dartmouth College, found his subjects in Philadelphia. He calls Pennsylvania's largest city one of the most "paintable" encountered during a career which has brought him thirteen important art awards.

Discussing his *School Children in Independence Square* (Plate I), Sample said:

"Frankly, I was as interested in the school children as I was in the historical implications of the scene.

"Here the children were being shown the significant landmark in Independence Square. These kids, in common with all the other kids I have known, were only making a pretense of listening to the remarks of their teacher about the statue. They were squirming, giggling, and tickling one another. A close observer of the painting will note that I have not overlooked this amusing characteristic of a group of children."

Sample's fondness for public places where people gather for relaxation led to his *Rittenhouse Square* (Plate X).

* See "In the Pennsylvania Dutch Country," by Lloyd C. Sturdevant, NATIONAL GEOGRAPHIC MAGAZINE, July 1944.

"Here, in the heart of the city," he said, "are all the activity and interest which one looks for in a well kept public park. There are mothers wheeling their baby carriages, afternoon strollers, sailors ogling a girl who turns an indignant back, youngsters playing and feeding the pigeons. When I was there sketching before making this picture, the whole scene had become more intensified through a recent covering of snow."

An impressive panorama from a hill in Fairmount Park struck Sample as a subject few painters could resist. The result was *Skyline from the Philadelphia Museum of Art* (Plate VI). Another facet of the Philadelphia scene is presented in the painter's *Schuylkill River, Winter* (Plate XIV).

In sharp contrast to the bustle of Philadelphia [illegible] Ernest Fiene's Pennsylvania Dutch [illegible] interest in Lancaster County [illegible] of the Amish and Mennonite people [illegible] he portrays, he was born in the Rhineland. He has twice returned to Europe to pursue his art studies, and holds a number of awards.

From Fiene's brush came *The Hex Sign* (Plate II), *Wheat Harvest, Lancaster County* (Plate IV), and *Road to Ephrata* (Plate IX).

Of the first painting, showing a farmer leading a reluctant cow past a barn decorated with its mystic symbol, Fiene said:

"I attempted to capture a mood of fear and superstition. The barn in its winter setting on a stormy day, with a fantastic old tree and crows circling in the sky, help to create the mood of foreboding which frightens man and beast. The hex or witch, is somewhere around; otherwise, the hex sign would not be there."

Wheat Harvest was painted from studies made on a sultry July day, the artist explained. He said:

"The rolling wheat fields against a dense sky are typical at this time of year. Acacia trees and wild flowers on the narrow margin of the road and the generally peaceful atmosphere indicate that one is in the heart of the Amish country. The harvesting machine drawn by mules represents one of the few compromises the Amish have made with modernity.

Road to Ephrata was painted on the spot on a May afternoon. Here again the signs of a 20th-century world are absent, and the dominant note is one of brooding tranquillity. Woman and boy trudging along the road wear characteristic Amish costumes. In the distance, a church thrusts its spire above the town of Ephrata.

William Gropper, too, turned to the Pennsylvania German country for one of his canvases, *Ephrata Market* (Plate XV). Gropper, a former New York newspaper cartoonist noted for his satirical social commentaries, found the spirit of peace and plenty in Lancaster County an inspiring incentive for a creative artist.

Amish and Mennonite People

"The Amish and Mennonite farmers," Gropper reported, "will not pose or permit any sketches to be made of themselves. They are honest, peace-loving, God-fearing, wonderful people, and I respect their wishes. It became necessary for me to live with them and study them carefully, making only mental notes. When I was away by myself in the fields, I would re-create from memory into my sketchbook the subjects for my paintings.

"They were most interested in my project, and we had many friendly talks. They had no objection to my portraying them, as long as they did not pose for the pictures."

In another mood, Gropper uses rich autumn colors in *Hunting* (Plate XVI). Such sporting scenes remind me that Pennsylvania, while primarily an industrial and agricultural State, also enjoys unlimited opportunities for outdoor recreation.

Pittsburgh, the steel-sinewed giant sprawling among the hills where the Allegheny and Monongahela Rivers meet to form the Ohio, inspired the Guild artists to produce some of their most striking compositions. Aaron Bohrod, native of Illinois and winner of many of the country's most coveted art awards, tells how he exercised artistic license to create his dramatic *From Calvary Cemetery* (Plate V):

"With a little rearranging of some of the elements involved, the gravestone sculpture was placed on my panel in such a way that the Christ figure overlooked the smoke-blackened but still colorful industrial valley of Pittsburgh.

"The contrast between the benign statue and the implied bustle-bustle of industrial activity seemed to me tremendously interesting. And the rhythmical topography, with frame houses sprawling on one another's shoulders, seemed typical of the Pittsburgh 'look.'"

In *From Mount Washington* (Plate VIII) Bohrod concentrates on the less-publicized backyard aspect of Pittsburgh rather than on the more glamorous view of the Golden Triangle.

On the outskirts of Pittsburgh, near the Allegheny County Municipal Airport, Bohrod found the subject for his *Dumping Slag* (Plate XII), in which a livid stream of steel-mill waste cascades down a slope from a train of

gondolas. Much of the airport was built on ground created by slag.

"This is an intrinsically dramatic setting," Bohrod said. "I chose the late afternoon, when the skies were darkening, so that the red-hot, diagonally descending splash would have the effect of greater than usual glow."

Pittsburgh so fascinated Bohrod that after completing his work for the Gimbel Collection he painted a dozen more scenes there for his own pleasure.

The Steel City also provided a subject for Adolf Dehn, of Minnesota, who surprised the art world nine years ago by turning to water colors after spending twenty years building a reputation as an expert in lithography and black-and-white wash drawings. Dehn was one of a group of artists who created a series of paintings for the United States Navy.

Dehn departed from literal accuracy to create *Industrial Area in Pittsburgh* (Plate III). Pittsburghers, viewing the painting, have tried in vain to identify the locale. Actually, there is no such spot where the principal elements—smoking mills and old-fashioned homes in close juxtaposition—lend themselves to grouping in a single composition.

The Famous Turnpike Portrayed

Abandoning industrial scenes, Dehn turned to the open country for his *Pennsylvania Turnpike* (Plate VII), showing a section of the $70,000,000 superhighway which speeds motor traffic 160 miles across the southern part of the State between Carlisle and Pittsburgh.

"The great clean curves cutting through the rolling landscape were exciting," Dehn said. "The only problem I had in making the picture was a thundershower. This actually pleased me, for it made for a dramatic sky."

The mood and spirit of a mellower Pennsylvania of an earlier day are reflected in Hobson Pittman's *Music Room of Strawberry Mansion* (Plate XI). Pittman has exhibited his work in all the important American museums and in Venice, London, and Paris. The home he depicts, in Philadelphia's Fairmount Park, was built in 1798 by George William Lewis, friend of George Washington. It was named for the wild strawberries which grew on the grounds.

"I chose the music room of Strawberry Mansion," Pittman said, "first of all, because I am particularly fond of interiors.

"There is an ageless warmth and personality throughout the house, and especially, it seems to me, in this particular room. Old things, faded things, and things that have given pleasure and happiness to generations, have always given me inspiration in my work."

Fletcher Martin's choice of coal mining for his subjects seems natural in view of the artist's background. Born in Colorado, he worked as a harvest hand, lumberjack, professional boxer, and sailor before taking up painting seriously. His only formal art training was a correspondence course in cartooning which he took at the age of ten. In 1939 he succeeded Grant Wood as art instructor at the State University of Iowa.

Coal-mining Scenes

Car Hoist (Plate XIII) is one of a series of mine scenes painted by Martin.

"I chose the subject of coal mining," he said, "because it is a type of endeavor which has always interested me—dramatic and dangerous work involving man against Nature.

"To experience my subject, I spent many days down in the mines, observing the various operations and making numerous on-the-spot sketches. This particular painting depicts a power hoist lifting an explosives car from the shaft terminal to a point high enough so that it can be switched to the proper tunnel by gravity.

"The particular mine or colliery where I worked is a Glen Alden Coal Company mine at Wilkes Barre. The terminal shown is well over 1,000 feet below the surface. Tunnels lead away from the terminal in all directions; some follow the veins for several miles.

"I might add that the miner's head lamp makes an ideal sketching light."

When the collection first went on exhibition at the Philadelphia Academy of Fine Arts, it drew the largest crowds in the institution's history—4,000 persons on opening day alone.

In Pittsburgh, steel pudllers rubbed elbows with college students to view the collection at the Carnegie Institute and Library. When 20,000 Pittsburghers were asked to vote for their favorite paintings, 10,000 complied and registered 90 different choices.

Big crowds turned out at Harrisburg, where a precedent was set by hanging the paintings in the rotunda of the State Capitol. At State College, Reading, and many other places the public's response exceeded the highest hopes of the sponsors.

After completing its tour of Pennsylvania cities and towns, by invitation the collection will visit other parts of the country and perhaps inspire others to create similar artistic records of their home State. In all, it faces about five years of travel before coming to rest as the nucleus of a permanent State art exhibit. If the sponsoring committee's hopes are fulfilled, the collection will be housed in a building specially erected for the purpose.

School Children at Independence Square Have Teacher's History Lesson

Storm Sky, Gnarled Tree and Distant Crows. Accent on Atmosphere Creating Hex Signs

Rambling Clapboard Homes Have Smoky Mills for Neighbors in Dyer's "Industrial Area in Pittsburgh"

"Wheat Harvest, Lancaster County," Suggests the Postcards of Percy Brach and Glenosh Masters

Patterson's Roaring Mills Jerry Allen's Story Incense to a Bronze Life-size Bust

An Upstream George Washington Surveys Philadelphia's Skyline from Monument Circle

Artist Dolin Finds Drama in the Pennsylvania Turnpike's Sweeping Curves and Angles East of Bedford

Amateur Stars and Pittsburgh Homebuilders on Their Hillside "Odyssey"

"Where Else," Asks the Artist, "Could I Find a Road Without Telephone Poles?"

[illegible]

Source: Postcard, Philadelphia's Greek-inspired Girard House Senate is a Legacy of Democracy

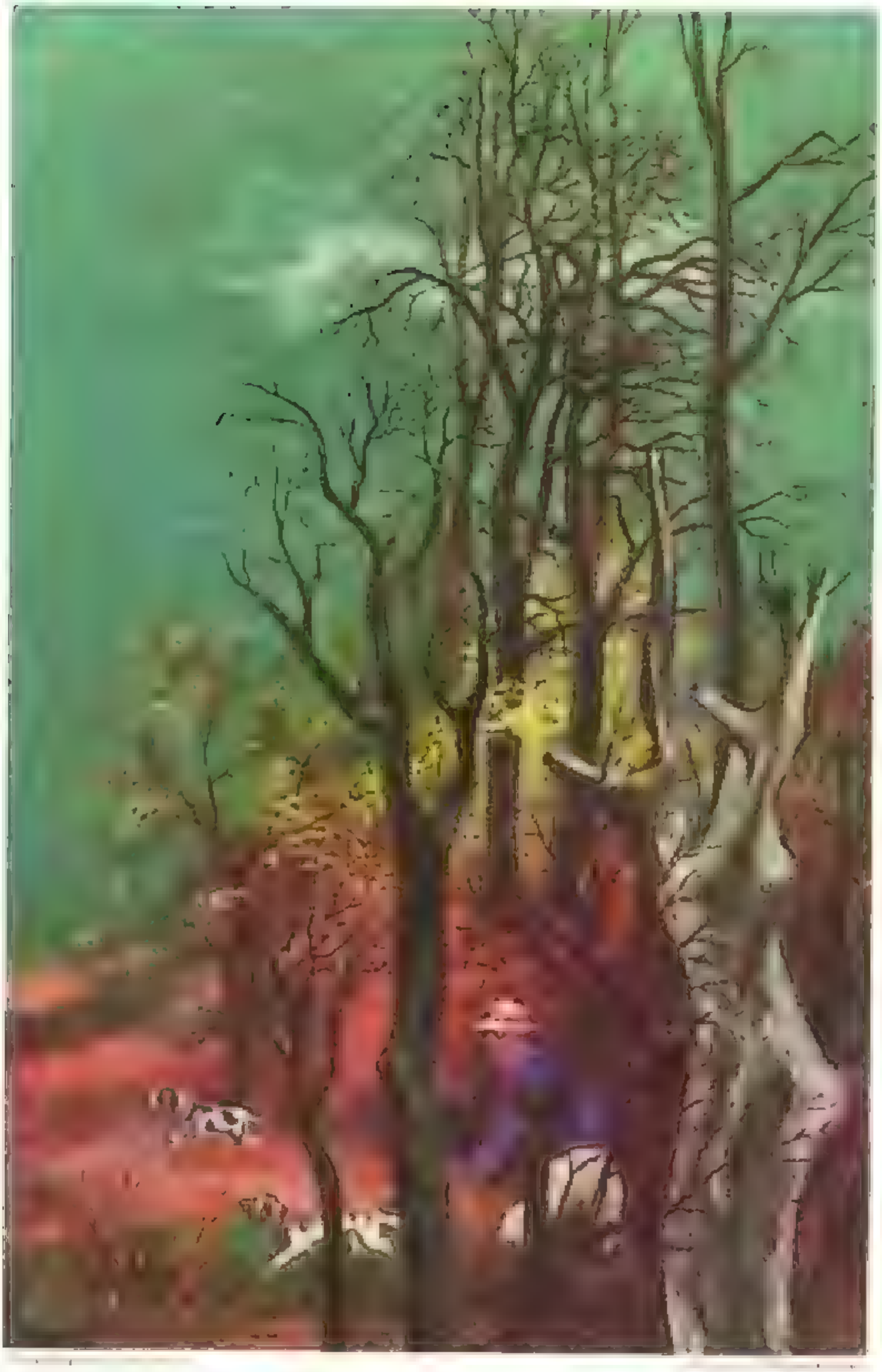
"Miss Rosa's Room at Sotheby's Mansion" Captures the Quiet Elegance of an 18th-century Philadelphia House

Robinson's "Dropping Shot." Published by Messrs. Laws, Lowestoft, the Proprietors of Steel Works.

Working by a Miner's Head Lamp, Marion Plotted a Wilkes-Barre Coal Pit [illegible] Feet Underground

Past Philadelphia's Bustling Factories and Railroad Yards the Grassy Schuylkill Flows to Meet the Delaware

On Market Day, Lancaster County's 'Plain People' Drive to Ephrata to Sell the Produce of Their Rich Farms



Hunters and Dogs Take the Field when Pennsylvania Deer is Ready for Game

Peasants of Anatolia

By Alfred Marchionini

"BUYURUNUZ, Doktor Bey." Please [illegible] at the entrance to his house in a small Anatolian village near Ankara. This western part of Turkey is equivalent to Asia Minor (map, page 60).

Like most of his Anatolian peasant neighbors, Ahmet was of middle height, strong muscular, and deeply burned by the sun. My companions entered the house with me, since it is the custom of Anatolian hospitality for a peasant's welcome to his physician to include all who arrive at the door with him.

In the villages of Anatolia the people have a high regard for doctors, and particularly for the professors of the clinics of the Ankara University. They make virtual pilgrimages to Ankara to consult physicians of the State's Model Hospital, often traveling for days by horse-drawn cart, by donkey, or on foot. There they are given advice and every care without cost.

Women Now Permitted to Greet Guests

In deference to Anatolian custom, we took off our shoes before going into the living room, at the door of which the women of the household greeted us. This courtesy would not have been possible before the time of Kemal Atatürk. Mohammedan custom then did not permit such freedom to women.

Meticulously clean, the trampled earthen floor was covered with *kilim* rugs. The wall, with two small windows, was taken up by a low pillow-strewn divan. In one corner were piled thin wool mattresses, carefully folded, together with coverlets and pillows filled with wool of the good local sheep. Melons, grapes, and peppers hung by strings from the ceiling, and on the window sills were squashes.

Ahmet directed us to places on the divan, seating the men first. He and his family then sat around us on the floor, some with crossed legs.

After everyone had taken his place, the Turkish word for "How are you?" went around to each guest.

All of us asked the same question in reply, and new neighbors kept coming in to bid us "A joyful welcome!"

To each greeting we replied in Turkish, "We have found joy."

The men, women, and children sat around us in a half-circle, and a quiet conversation began. Turkish coffee was passed in small cups, a few of which had been borrowed hastily from a good neighbor.

Meantime several of the women had busied themselves in the kitchen, where a soot-covered copper kettle hung over an open hearth. With the wood smoke a smell of roasting meat soon came in to us.

Finally the host brought in a large round copper tray, which served as a table. He put it down on the floor, and we all seated ourselves around it. It was set with spoons and pieces of flat peasant bread and bowls holding many different foods.

We all reached with our spoons into the same bowls. In this fashion we ate a sort of farina made out of pounded wheat; yoghurt of sheeps' milk; a syrup made from grapes cooked a long time; hard-boiled eggs; and then small pieces of lamb broiled on a spit. After we had eaten our fill, a washbasin, water pitcher, soap, and towel were brought in, and the son of the house insisted on pouring water over the soaped hands of each of us.

Ahmet had a surprise for us. A wedding was taking place in the village, and he invited us to go to it.

From some distance we could hear the characteristic music, and as we came nearer we saw the two musicians. One had a *saz*, a mandolinlike instrument, the strings of which he plucked.

The other accompanied him with muffled beats on a large drum. On a sort of open-air dance floor the men did folk dances.

Unfortunately, they did not wear the old bright colored costumes, for these have fallen into disuse.

Instead, they had on wide trousers, cut like breeches and ending in leggings tight over the calves and buttoned around the lower leg. Their suit coats were of the ordinary modern style.

Of traditional color they displayed nothing except shirts of gaily flowered or striped cotton and brightly striped sashes, which held the trousers in place. For footgear they wore homemade snow-shaped sandals of leather, open above and held in by thongs.

Cap Supplants the Fez

Since Atatürk did away with the fez, peasants and workers now wear an ordinary cap as head covering, but the visor is sometimes turned to the back, since it would prevent the faithful from touching the forehead to the ground in prayer.

While we watched the men's dance, the ladies in our party were taken to the house of the bride, where women and children in

© Photograph by Maynard Owen Williams

"Smile, Williams," the Photographer Tells His Reflection in a Roadside Mirror

[illegible]

[illegible] were [illegible] in a small closed courtyard. A sort of platform had been built against the house wall. On this [illegible] the bride was enthroned [illegible].

At her feet [illegible] the [illegible] through the [illegible]. [illegible] Then one was taken out and [illegible].

Old Costumes Still Worn in the Country

The making of national costumes is one of the traditional tasks of the peasant. There are [illegible] of [illegible] of Anatolia [illegible] the [illegible] taste of an old general culture, in the composition of colors in single articles of dress and in the wealth of embroidered [illegible] (Plates III and VII).

At the wedding we attended, [illegible] the national costumes were worn by the women. Most of the men had on modern clothing. Traditional wedding [illegible] by [illegible] families, but [illegible].

In the country, however, women keep their wedding [illegible] for special occasions, such as [illegible] wives and for important [illegible] festival [illegible].

The veil, which once hid much of every woman's face, has almost disappeared since [illegible]. [illegible] are [illegible] to [illegible] men, and their [illegible] is a symbol of their [illegible].

The modern Turkish woman has both a passive and an active voice in politics, and there are several women deputies in the Grand National Assembly.

Through This Modern Entrance Pass Many of Turkey's Future Leaders

[illegible]

[illegible] come [illegible] Ataturk himself [illegible] during the War of Independence.

[illegible]

"May Your Path be Open

[illegible] "May your path be [illegible] started homeward.

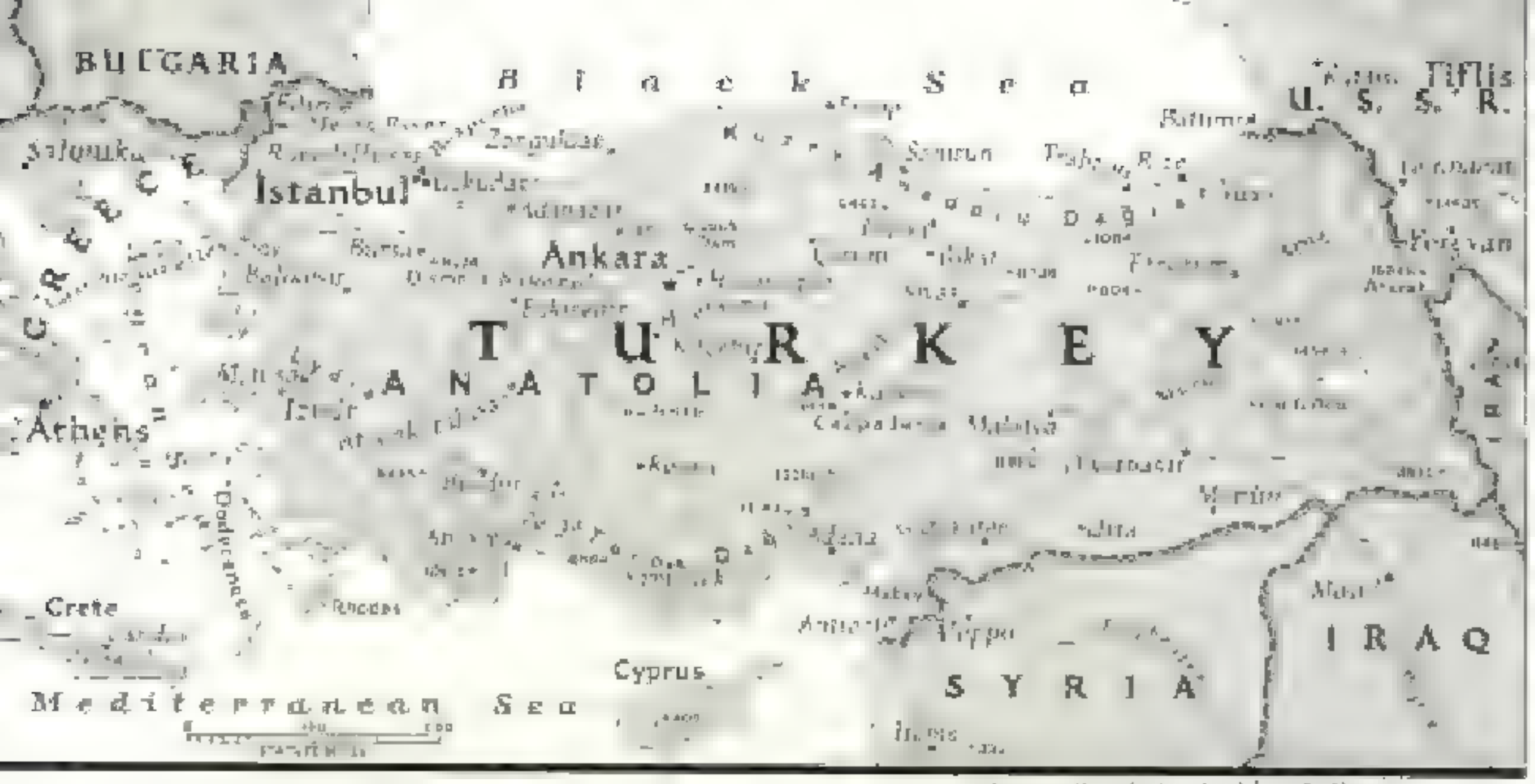
We said our thank-yous and asked the peasants to pay us a visit in the [illegible] Then we called good bye "Allah emarladik." We [illegible]

We were answered according to the Turkish custom, "Gule, gule" [illegible]

As we looked back [illegible] this [illegible] were [illegible] colored picture.

Flowers and garlands [illegible] and trees, mostly [illegible]

I [illegible] passed hospitality [illegible] of the Turkish people. In remote parts of the [illegible] admires a beautiful shawl [illegible] girl [illegible] is the custom [illegible]



Vast and Varied Anatolia Holds the Natural Riches that Make Young Turkey Strong

Though mining and industry are increasing, Turkey's chief wealth is still the ancient Anatolian soil. [illegible] valleys yield rich bounties—citrus fruit, olives, figs, grapes, cotton, and tobacco. On the mountain-ringed semiarid steppes of central Anatolia tolling peasants till the nation's bread, wheat. Farther east, where only grass can grow, grain gives way to herds of sheep and goats. Important mineral deposits, especially coal and copper, lie beneath the soil. Wide timber tracts clothe the northern mountains.

sheepfold the [illegible] of the sacrifice which Abraham offered to God. In old times the rich Turk not only had his sheep slaughtered and roasted for the poor, but after the meal was over the guests removed [illegible] wearing out of their teeth during the [illegible] alms.

On the way back to Ankara one of our companions, [illegible] Anatolia lead a hard life.

To give us an understanding of their necessities, [illegible] and geography of Anatolia.

Turkey, with an area of 300,000 square miles, [illegible] tions in climate.

Anatolia Bounded by Mountains and Seas

The Black Sea coast of Anatolia suffers damp, enervating summers and cold winters with [illegible] extreme cold in winter. The south and west coasts enjoy the typical Mediterranean climate of mild winters and [illegible] sea.

Anatolia is bordered on the north by the Black Sea, on the west by the Aegean Sea, on the south by the Mediterranean.

In the north rise the Kaz Dagh, in the south the Taurus (Tauros Mountains).

Great Basin Holds a Salt Sea

Central Anatolia, where Ankara is situated, is enclosed by huge ramparts of mountains. Since mountains also rise in the west and [illegible] plains, important for cattle breeding, lie 3,900 to 6,500 feet above the sea.

[illegible] south of Ankara and north of Konya in a great basin, and without possibility of flowing off, are numerous salt lakes. [illegible] Salt Lake, is 12 miles [illegible] Such [illegible] rise to a salt industry.

Comparatively few roads cross Anatolia. In their valleys, however, agriculture thrives. The Kizil, the Halys of the ancient world, is one of the biggest.

[illegible] who told him his venture would result in the destruction of a great kingdom. He moved against Cyrus the Persian.*

* See, [illegible] Speech," by Richard St. Dwel, National Geographic Magazine, March 1944.

It Takes Three Men and a Bus to Bulldoze a Sturdy Ox into Wearing Shoes

[illegible]

[illegible] did the King of Lydia [illegible] kingdom meant by the [illegible]

Philosophical Peasants Hate Drought

[illegible] within short [illegible] from central Anatolia [illegible] cannot reach it [illegible] This [illegible] [illegible]

Handicapped by drought, the peasant [illegible] his reliance in [illegible] "His [illegible] head is boiling in [illegible] pot in winter." The [illegible] puts it "He who looks for [illegible] August rubs his belly in winter [illegible] the dweller in Sinop says, "He who [illegible] in summer with heat does not freeze in winter with cold."

A few rainy spring days in the dry Iznik area ensure the harvest that is the [illegible] of the Turkish population [illegible] in Kirshehir, in central Anatolia [illegible] "If March and April [illegible] enough." Konya farmers [illegible] a golden carriage with [illegible]

The Difference That Rain Makes

If spring [illegible] sometimes [illegible] [illegible] April [illegible] cannot be brought in for the whole [illegible]

Near Sivas there is a saying: "If it rains between March and May, praise the *kile* (dry measure); if it does not rain, put the kile on your head."

An Village Schoolteachers Turkey Pins Its Hopes for Rural Progress

[illegible] of the Turkish Ministry [illegible] latest peasant [illegible] To train teachers in rural [illegible] to its Village Institutes (page [illegible]). There they [illegible] to farming and [illegible]. Women like [illegible] Near Afyon

Central Anatolia is so dry that piles of salt [illegible] spreaded up in the deserts and left uncovered [illegible] Because the [illegible] in desert [illegible] to gain [illegible] inches there is not enough [illegible] the heaps of salt.

In contrast to the scant rainfall of central Anatolia is the excessive moisture in the maritime [illegible] of the Black Sea near Rize where [illegible] pour down more than 90 inches [illegible] annually at the foot of the Kaçes [illegible] Daglari. Even the tea plant thrives [illegible] the balmy heat of that region.

A Road Traveled by Xenophon

A well constructed road which leads to the old fortress of Erzurum, 6,400 feet above the [illegible] reaches the [illegible] in a comparatively short stretch.

At the beginning of [illegible] once the capital of the Byzantine [illegible] Erzurum. Long winters and heavy snowfalls fill planting hopes here and the [illegible] are [illegible] largely on the summer harvest and on cattle breeding for their livelihood.

The Anatolian peasant supplies Turkey not only with cattle [illegible] most of the grain for bread, but with export crops such as figs, currants, tobacco, olive oil, cotton, wool, nut, oranges, etc.

Cubuk Dam Near Ankara, Once Dry at the Hills Above, Green as the Gardens Below

[illegible] plain run dry. To insure its mushrooming capital [illegible] Ankara residents say it has changed even the city's [illegible]

[illegible]

Four of Student Jamboree Today Play the Anatolian Equivalent of *Turkey in the Straw*

These students [illegible] of Bandirma schoolmates at the Husbandry Institute. As future village schoolmasters, [illegible] to keep up on rural [illegible] Deep courtesy, hard working habits have made the Institute almost self-sufficient [illegible] farm buildings, [illegible] were built by students.

The peasant from the region of Smyrna (Izmir) explains to his son: "The olive garden shall be laid out by the grandfather, the fig garden by the father, and the vineyard by yourself."

Through lowly toil the peasant has raised the prosperity of the country far above the level reached in the time of the sultans, when farmers were first of all soldiers and the country remained thinly settled and often underdeveloped.

Ataturk, founder of modern Turkey, insisted in his declaration of 1923 which of [illegible] duties he valued more: "Sword and plow; of these two conquerors the first has always been overcome by the second."

Two Presidents Have Worked for Peace

Since the end of the War of Independence in 1923, two Presidents of the young Turkish Republic, Kemal Ataturk and Ismet Inonu, [illegible] generals, have striven to promote peace and the welfare of the peasantry.

The Government of the Republic has pressed the education of the young peasants for building peasant schools in rural districts (page 62). In them future farmers are instructed in all the requirements of their calling in their provinces, and above all in the modernization of agriculture.

I have often seen the young people at their work. Besides studying modern agricultural methods, they practice rural arts and handicrafts and keep alive traditional popular songs and dances.

Whoever comes to Anatolia, whether to visit its provincial beauties and the numerous historic sites of classical, early Christian, Byzantine, Seljuk, and Ottoman times, or to study the improvements of modern Turkey, will learn to esteem and love these hardy sunburned people, who are building a strong self-reliant nation on a foundation of peace and [illegible]

* For additional articles on old and modern [illegible] see "Turkey Is Awake," Magazine Cumulative Index, [illegible] Owen Walsh.

A Young Dacca [illegible] Modern Tissues Models : Silken Wedding Gown Two Generations Old

Upper Bussa Rapids, Lower Niger, Nigeria. Two Hausa Hand Stones to Grind Their Staff of Life

Scarred or Smooth, Peasant Faces Are Framed in Cloth

Gay National Costumes Still Catch the Eye in Modern Turkey

[illegible]

Hilton on the Beach of a Minaret Lake, a Dromedary, Dressed Dead Pheasant, Spoon and Knife

Navajo Villagers, Attendant Women Wear Their Finest Dresses When Dances Show

Sex Tourists Gorle Gizzes Before the Ruins of an Ancient Roman Market Place

Pacific Wards of Uncle Sam

By W. Robert Moore

With Illustrations from Photographs by the Author

WE anchored in early morning off a coral atoll in the blue Pacific. A trim outrigger canoe came skimming across the reef and drew alongside our Navy LCI. In it sat four paddlers, their bare brown bodies glistening with perspiration.

Perched in the prow was a young Adonis, broad of shoulder and powerfully muscled. His Puluwat atoll costume was a scarlet-striped loincloth and odd ornaments (Plate I).

About his bushy black hair he had rakishly looped two headbands, one of flowers and one of small shells. A strand of seeds and a silver chain encircled his neck. Small earrings dangled from slit ear lobes.

His arms were tattooed and marked by scars—cuts or cigarette burns raised to permanent bumps of scar tissue. Between his [illegible] and [illegible] he had [illegible] red [illegible].

Two companions, squatting amidships, also were gaily decorated. A toothless grandpa steered from the stern. All four shouted native greetings.

"Good Morning, Sir" Even at Night

On a Main Street in the United States such a quartet would seem strange. Yet today these islanders are wards of Uncle Sam.

Wherever I went, some brown-skinned islander was always spreading a mat for me to sit on, opening a fresh coconut for me to drink, and trying to speak my language.

"Good morning, sir," was a smiling greeting as likely to be heard at dusk as at daybreak, but eloquent of friendliness.

Today, as an outcome of war, the United States governs some 51,000 of these gentle Pacific island folk. On July 18, 1947, by agreement of the Security Council of the United Nations and approval by Congress, our Government officially took over control of the islands of the former Japanese Mandate as the United States Trust Territory of Pacific Islands.

Before the war few persons had visited these islands, as the Japanese maintained jealous control over the region.

Much of the mystery of Micronesia ended when our amphibious forces stormed ashore on Kwajalein, Eniwetok, Saipan, Tinian, Peleliu, and other islands, and our planes pounded such targets as Ponape, Yap, Koror, and the Japanese naval base of Truk.

Scores of other islands missed the news headlines. Consider such musically named places as Ailinglaplap, Fingelap, Fuluwat, Satawan, Babelthuap, and Kapingamarangi!

As its name implies, Micronesia is made up of small islands. More than 2,000 land spots cluster about 60 atolls or lie apart as individual units within the three groups, the Marshalls, Carolines, and Marianas, which are embraced by our Trusteeship.*

All the land spots gathered into a single mass would have an area of only 687 square miles, little more than half the size of Rhode Island. That total excludes Guam, which has belonged to the United States since 1898.

These small islands are spread over an area considerably larger than the whole United States. They are scattered over roughly 3,000,000 square miles (map, page 77).

From the easternmost atoll of the Marshalls westward to the islands off the Philippines is 2,800 miles. Between the most northerly outpost of the Marianas and Kapingamarangi, just north of the Equator, is a span of more than 1,300 miles.

On the larger islands many natives favor Western clothes (Plate XVI). But on the more remote dots of land the people are as primitive in appearance as the canoeists who greeted us at Puluwat. Their women folk are clad in short wrap-around skirts woven of wild hibiscus fiber (Plate VII). Scampering youngsters wear "aprons" of breadfruit leaves or nothing at all (page 81).

New Growth Covering War's Scars

I had been on some of the islands during the war. Then some were busy forward bases for which we still were fighting.

Now, three years later, I roamed among them by plane, naval craft, and [illegible] at the invitation of the Navy, which [illegible] Trust Territory.

Several military installations were already abandoned. New growth concealed many battle scars. Vines clambered over deserted camps and wrecked equipment.

Native inhabitants, whom I had seen living in jerry-built shelters after their villages had

* See, in the National Geographic Magazine, "Hidden Key to the Pacific," June 1942, and "Mysterious Micronesia," April, 1944, both by William Pike, and "American Pathfinders in the Pacific," by William H. Nicholas, May, 1946.

Palau Youngsters' Enthusiasm For Baseball Is as Big as Their Father's Glove

When Americans [illegible] the game. The [illegible] These Palauan Island [illegible]

[illegible] were [illegible] quarters. Others, once hungry be- [illegible] Japanese [illegible] [illegible] revived. [illegible] On several islands I [illegible] village [illegible] There were wedding [illegible] native dance [illegible]

[illegible] to these pleasant [illegible] I flew first to Guam, which war changed from [illegible] American outpost into a busy naval [illegible] crossroads of the Far Pacific.*

[illegible] part of the Trust Territory [illegible] it lies in the area, [illegible] Department [illegible] civil administration [illegible] students from the Trust Islands also are brought here for [illegible] as medical practitioners [illegible] and teachers.

Truk Has Nearly 100 Islands

[illegible] passengers for Truk will board the plane at Gate 1."

I clambered aboard the waiting amphibian. Five hours later we were circling the [illegible]

[illegible] Truk has both [illegible] islands [illegible] of its encircling barrier [illegible] as wide in places as the distance between Washington, D. C., and Baltimore. Fourteen of them are sizable volcanic land lumps.

Tol, largest and tallest of the Truk Island-

* [illegible] Margaret M. Blaxton, National Geographic Staff.

A South Seas Apollo Strokes His Outrigger Across a Reef

Shadow and Limpid Lagoon Give the Illusion that This Namoluk Canoe Floats in Air

Brilliant tropical fish, starfish, sea cucumbers and other [illegible]

[illegible] rises to 1,483 feet. From the air it appears a jagged rim [illegible] volcanic [illegible].

Moen [illegible] Quonset huts [illegible] high green [illegible] between [illegible].

Here are the American administrative headquarters and residence of the governor of the Eastern Caroline Islands (Plate II).

The Japanese had a powerful radio station on Moen [illegible]

Nearly [illegible]

[illegible] 15,000 people [illegible] Truk [illegible] villages. Small settlements are [illegible] the shores of the [illegible] islands. [illegible] the wooded and grass-covered [illegible].

During [illegible] the Japanese interfered comparatively little with native life. [illegible] much of the rule to local chiefs.

Chief Artie of Truk Speaks English

Truk [illegible] Artie Moses, has three assistants. [illegible] are heads of the various island communities.

Our Government outlines broad general policy and maintains supervisory control, but otherwise leaves the details of native administration to the natives' own initiative.

Periodically [illegible] together at Moen to talk over local affairs. I attended a meeting where [illegible] of [illegible] the [illegible] communities they [illegible].

At this meeting I first met Artie, plump and perpetually [illegible]. Artie

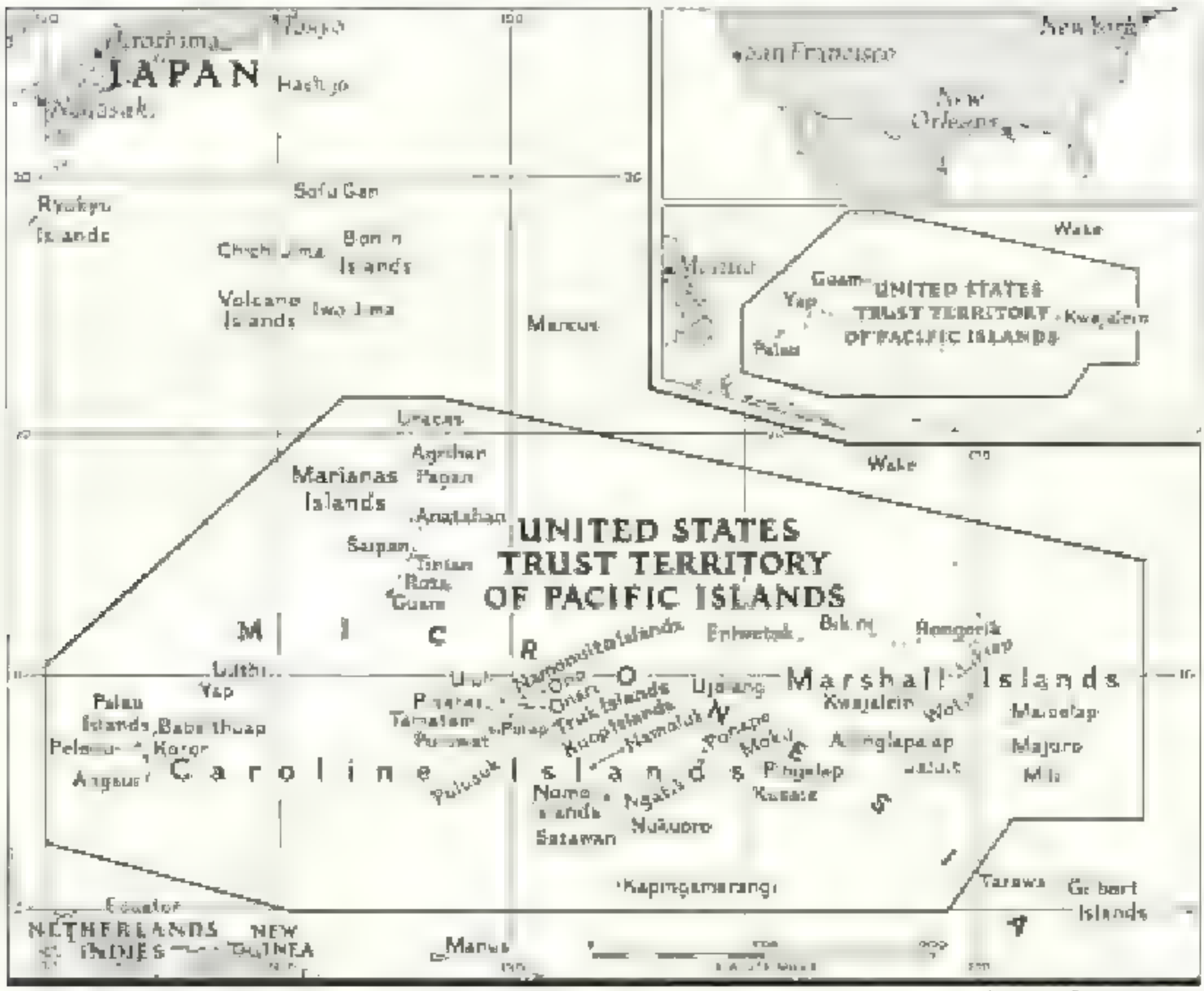


Image by Swanson, N.G.S.

U. S. Trust Territory, a New Name in the Pacific, Supersedes the Japanese Mandate

Here the fortunes of war have turned over to Uncle Sam some 51,000 new wards. Though the Territory is as wide as the United States (see map), its 2,000 coral and lava islands contain only enough land to make half a Rhode Island. If the Trust were moved a third of the way across the globe, it would stretch from the Equator to the tip of Baja California. For details of the Trust, Ponape, Palau, Yap, and other island groups, see The Society's Pacific Ocean Map of September, 1944.

speaks English, learned years ago when he shipped as crew member on an American vessel.

Little by little I pried from him the story of forced labor and hardships his people experienced under the Japanese during the war.

"Were there many Japanese on the islands?" I asked him.

"Yes, many," he replied. "So many that they ate all our food."

"How did you live?"

"For a long time we ate mostly yam leaves cooked in sea water. But we often tricked the Japanese. They planted yam patches for their own use. So every time there was an air raid warning and their troops went to man their posts, we would hurry out in the yam fields and dig as fast as we could. They found out about it and put out an order that anyone found in the fields would be shot.

"One night a guard saw a man sneaking into a patch and shot him," Artie paused and laughed as if it were a big joke. "That time," he chuckled, "it was one of their own men."

The Japanese taught the islanders baseball (page 74).

Barefoot Islanders Play Baseball

"Enthusiasts? I'll say these people are!" exclaimed one American officer. "They asked me to umpire an interisland competition. They played not one game, but three—and right through the heat of the day."

I watched a team of Tol and Udot men play a challenge game against a Navy nine. The natives lost by only 7 to 6. They're good, these barefoot ballplayers of Truk.

From hospitable Truk we went by Navy LCI to the westward groups. Passengers included a civil administration officer, a chief

Headmen of Uncle Sam's New Wards Confer with the Navy in Palau, Nassau Islands

[illegible]

[illegible] Harmonist [illegible] assistants with medical [illegible] DDT [illegible] U. S. Commercial Company trader. Assistant Chief Ayabe from [illegible] returning home.

Such special trips to the outlying islands are made about [illegible] a month.

Other circuits cover the rest of the Carolines and the Marshalls from headquarters of Koror, Yap, Ponape, Kwajalein, and Majuro. Saipan is headquarters for the Marianas.

On these [illegible] native dancers [illegible] government with [illegible] at meetings [illegible] still flies with [illegible] [illegible]

Until its [illegible] in 1947 the [illegible] Reconstruction Finance Corporation [illegible] the purchase of copra and [illegible] products and furnished the [illegible] trade necessities. Their [illegible] Navy [illegible]

Like a native chant are the names of the island stops we made on our western run: Peleliu, Ulithi, Palau, Tamatam, Ulul, Oro, and Olnari. You can virtually set them to the rhythm of the island dances, to the measured stomp of bare [illegible] [illegible] (Fig. X)

The [illegible] of the war's succession of thrills

[illegible] Pulap Sailors Stand Beside the Prow of an Unfinished Seagoing Canoe

[illegible]

[illegible] sailing canoes [illegible] between [illegible] and the islands (page 75[illegible]). The high stern [illegible] over the gunwales and the paddles [illegible] always seemed to be "backtracking." I shudder [illegible] what might happen to [illegible]

While some of the outer islanders have had [illegible] close contact with Truk, life in many of their villages is much more primitive.

Women Dance Sitting Down

On some islands women do not stand in the presence of [illegible] assembled [illegible] men. When [illegible] they [illegible] walk [illegible] bent [illegible]

In the dance I saw [illegible] women performed [illegible] seated. [illegible] only by the [illegible] of [illegible] and [illegible]

Woman's place is at the [illegible] fire beside it, where she cooks over a tiny open fire or bakes in a bed of hot coral stones (page 811).

[illegible] women care of the taro [illegible] while men climb trees for fresh coconuts, fish, make fish nets and build outrigger canoes.

On one island the chief reported that eight women had been sentenced five days each in the local lockup because they were untidy housewives.

Yap Is Never "Storm Stroke" Its Experienced "Bank" Bulges with Assets Not Easily Stolen or Counterfeited

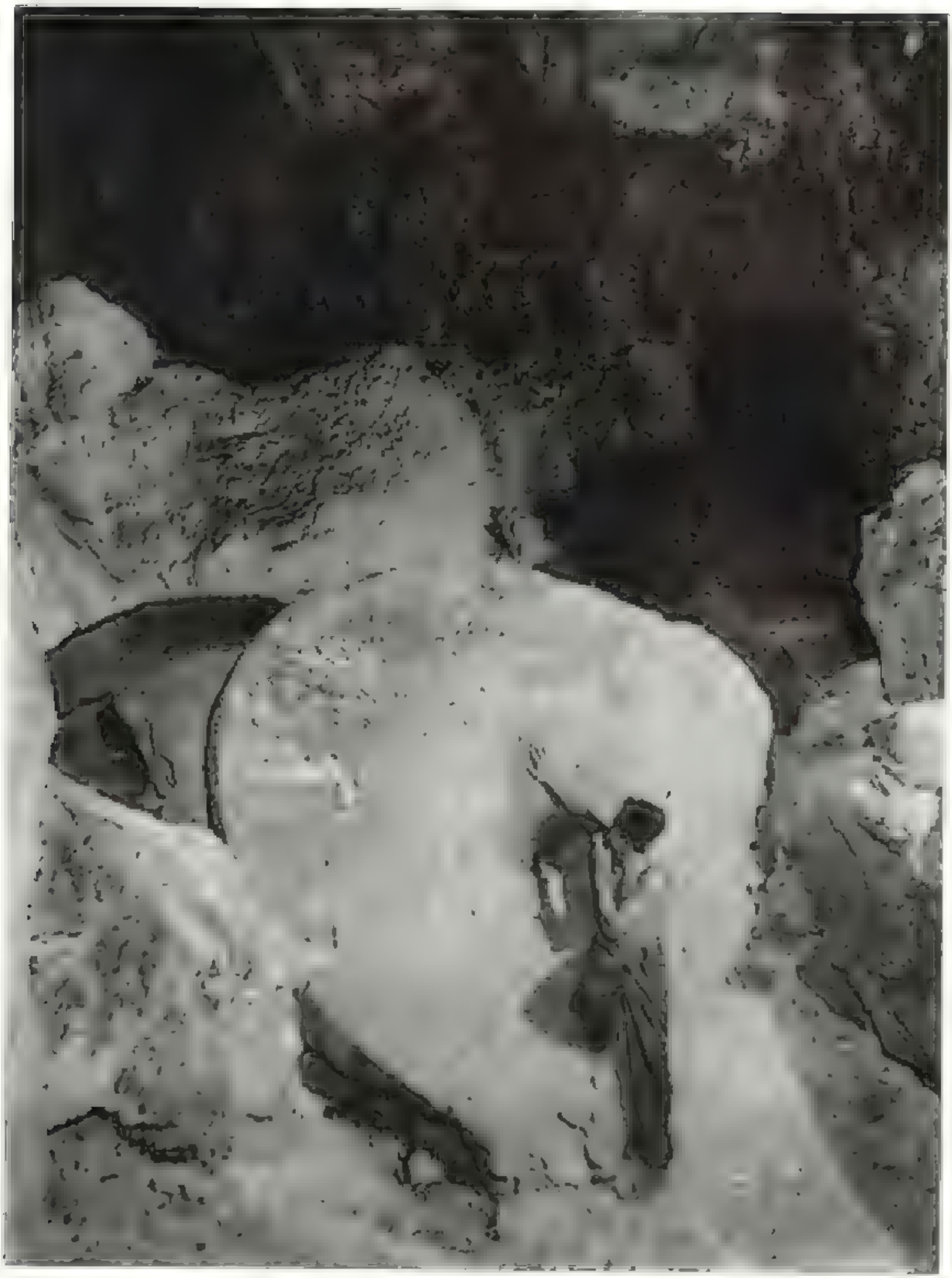
[illegible]

Mamma's Greensickness Said May Weigh 30 Pounds

[illegible]

Eve's Daughter Wears Breadfruit Leaves Fore and Aft

[illegible]



Yap's Mint for Its Stone Money Is a Gloomy Limestone Cavern in the Palau Islands

[illegible]

Most homes here are small thatched structures. Some stand on short piles above the ground; floors of others are only coral pebbles covered with matting (Plate VI).

Far more impressive are the canoe sheds on the islands. Huge breadfruit pillars and heavy crossbeams support the high-peaked thatched roofs. The members are laced together with coconut-fiber twine (page 79).

Once these canoe sheds were "all men" houses, from which women were barred. They still serve as local clubs and community [illegible] of taro plants and dry fish hanging in the open gables. "For good luck and good crops," Chief Ayster said.

Every village has many canoes, large and small. I saw several under construction.

The hull is hollowed and shaped from a single breadfruit log. Decorative prows, outriggers, and other parts are fastened into place entirely by twine. Not a nail or screw is used. Cracks and boring holes are then caulked with tree gums (Plate X).

When the villagers cannot get canvas for sails, they make them of matting.

These light, trim craft seem to fly before a good breeze. They are always sailed with the outrigger to the windward. So, instead of tacking, the canoeist lifts the spar of the triangular sail and shifts it to the opposite end of the boat, then gaily sails off in a new direction, the stern now becoming the prow.

A 350-mile Sail for Cigarettes

A few months before I visited Puluwat, several of the islanders had sailed a seagoing canoe to Truk and back, a round trip of some 350 miles, just to buy cigarettes! In all, they had a total of $17. With this they bought cigarettes for the whole island.

As you sail into the Namonuito group, you find yourself in a king-size atoll. The islands and reef sprawl in a rough triangle to form a lagoon of some 724 square miles. Next to those of Kwajalein and Truk, it is the biggest lagoon in the Trust Territory. To get from Ulal, at one corner, to Onari, Oru, or Pisarras, on the opposite side, you travel about 50 miles.

The western islands are tufted with feathery coconut palms. Only on Ulul Island are the trees set in orderly rows. There, some years ago, the Belgian family of Etsche[illegible] Hoppe, established a large plantation.

Coconuts play a remarkable role in the life of all these Micronesian peoples. They drink the water of young coconuts, prepare food and milk from the mature nuts, and make delicious salads from both the sprouting nuts and the palm hearts.

They use the coconut's husks for fuel, light lamps with its oil, twist the fiber into twine, weave the leaves into mats and baskets, and thatch their homes with the big fronds.

Copra, the dried meat, yields rich oils used in the manufacture of soaps, margarines, and other products. From most of the islands we took off many canoe loads of copra (Plates III and IX).

Leaving the Namonuitos, we returned to Truk. And from there I shipped almost immediately on another field trip going south. Chief Artie of Truk went along as interpreter and assistant to the civil administration officer.

Sailing one afternoon out of one of Truk's south passes, we skirted near-by Kuop atoll and set course for Namoluk. Early the next morning we arrived off its reef.

The coral barrier enclosing the triangular lagoon of Namoluk atoll has only a single shallow pass. Large craft are barred, and the entrance is so narrow that the islanders build their canoes with outriggers coupled close to the hulls (Plate V).

When the tide is low much of the reef is awash, and the pickup waters of the lagoon pour from the passage like a millrace. Boatmen have to paddle and pole furiously in the twisting channel.

Live coral on these reefs displays fantastic formations and hues. Here sparkle vivid yellows, greens, reds, and bright purples. Within the lagoon, too, dart brilliant fish. Many sea cucumbers (bêche-de-mer), starfish, and other strange sea creatures dot the ocean floor (page 76).

In Namoluk I found a marked difference from the western islands. Its homes are dispersed more widely. Paths, lined with green bushes or edged with coral rocks, thread through the coconut palms and huge breadfruit trees (Plate XVI).

The people here, as in Truk, wear foreign-type clothes. Their houses, too, are constructed mainly of wood. Some even have glass windows. A church, dispensary and meeting house are of wood or plaster.

The Nomoi group, our next stop, consists of three separate atolls—Etal, Lukunor, and Satawan. As we cruised toward them we could see all three at one time from the ship's bridge.

Etal, like Namoluk, has a closed lagoon, so again we had to lie on the island. Here the people have a whaleboat to ferry passengers ashore. We landed on a coral pier built on the open sea.

Practically all of the Nomoi Islands have these coral stone piers and stone sea walls. Perhaps the most extensive construction is on Lukunor, where we next stopped.

Likeep Villagers Take Mats, Fans, and Tea Canoes to Their Trading Post

[illegible]

Virtually [illegible] wall [illegible] high. Near [illegible] in the center of the village are likeeps, [illegible] on; they are crowded [illegible] easily.

[illegible] the meeting-house, church, and [illegible] Lukunor are built [illegible].

During the war the Japanese had about [illegible] troops stationed on Lukunor. They moved the native inhabitants to the small adjacent island of [illegible]. They cleared the taro beds, pulled up the taro plants, and planted [illegible] in their stead. Even so the Lukunorese went hungry and many died before the war ended.

Ink and Carbon Paper as Dyes

The natives have re-established themselves [illegible] three neighboring villages on Lukunor [illegible] plantations [illegible].

In the canoe houses men were constructing [illegible]

Women were [illegible] mats and other handicraft articles from pandanus [illegible]. They use egg [illegible] for dyes, even red ink and blue carbon paper with which to color the fibers.

Except for the [illegible] the village presents [illegible] the village center [illegible] to look [illegible] the right time. A chain of narrow islands [illegible] along the [illegible] of the atoll and at low tide sections of reef are bared.

I took the cousin [illegible] and rolled up slacks [illegible]. We [illegible], there to be met by the entire village lined up along the pier [illegible]. We could see the free hand of the village leadership in the reception, for all shouted "[illegible], sir" as each of us walked up the pier.

Had it been the first village I visited, I would have thought, too, that the [illegible] had arranged the [illegible] for our benefit. But

everywhere the paths and yard plots are swept and kept free of fallen leaves.

When we were ready to leave, I saw several villagers carrying bundles to the pier. One passenger we were to take back to Truk was the schoolteacher, going there for a period of training. Schoolchildren crowded the pier to wave her farewell. Many of the young girls sobbed as she left (Plates XIV and XV).

As we sailed out of Lukunor and again as we were entering Satawan atoll, we ran into enormous schools of porpoises. In each school there must have been at least a hundred, leaping and cavorting ahead of our ship.

Of the four islands we visited in Satawan atoll—More, Kutu, Ta, and Satawan—the last is largest. Numerous other green islets strew the northern curve of the reef like dots and dashes on a telegraph tape.

Several Japanese landing barges and an airplane lie wrecked about the pier and beach at Satawan (Plate III). In the center of the island I also saw several trucks, light tanks, marine engines, guns, and other war gear. Here, too, the Japanese laid out an airstrip.

Today some native families are living in houses the Japanese built. Many had salvaged aluminum from wrecked planes and fashioned it into pots and pans.

Ancient Taboos Survive

Much of Micronesia has been Christianized for years. Often, however, you find odd remnants of ancient beliefs. On Kutu I came upon a clump of coconut trees whose trunks were encircled with fringes of coconut leaves. Dry fronds and fallen nuts littered the ground.

"Taboo," explained a villager, when I asked the reason.

"Why taboo?"

"Owner die. We not touch for one year."

Thus taboo-marked grove happened to occupy the space between the two village churches.

After spending three days in the atoll, we headed southward to Nukuoro and Kapingamarangi (page 80).

These two gemlike atolls, unlike the other islands of the Trust Territory, are inhabited by Polynesian, not Micronesian, peoples.

A group of Polynesian sea wanderers either was left on these islands at the time of some migratory movement or was cast up here when its canoes were blown far off course.

They are now hundreds of miles from their Polynesian kin. More than 500 of these golden-brown folk live on Kapingamarangi; fewer than half that number are on Nukuoro.

We went first to Kapingamarangi. It was least day when we arrived at the atoll.

The village was having a double wedding and a banquet. The feast also was a farewell party for Dr. Peter H. Buck, Director of the Bishop Museum in Honolulu, who, with three anthropologist companions, had been making a study of the people.

We ate taro, breadfruit, and coconuts, prepared singly and in a variety of combinations, and gorged ourselves on other dishes of fish, rice, and pork.

When we came to leave, almost everyone in Kapingamarangi, it seemed, paddled out to our ship to say farewell. Even the ruling chief, gracious King David, who stands nearly six feet tall and must weigh 300 pounds, came alongside in his huge white canoe.

We were fortunate with weather when we arrived off Nukuoro. The sea was calm. On previous calls in the past three months rough water had prevented loading of copra. Several canoes had been damaged in trying to come alongside to transfer passengers.

For a day and a half we drifted off the lagoon entrance to load 40-odd tons of copra from the procession of bobbing canoes.

Nukuoro has had more contact with other islands, particularly Ponape, than has Kapingamarangi. Some of its homes are wood-framed and its church is a plastered, thick-cord-walled structure roofed with sheet iron. At church service the Scripture lesson is read from a Ponapean language Bible. The sermon is delivered by the native pastor in Polynesian tongue.

Copra loading completed, we headed for Truk into a gathering storm front.

After reaching Truk I flew to Ponape, one of the two largest islands in the Territory. I had planned to see the experimental farms the Japanese had planned, and also visit its mystery ruins of Nanmatol, on the southeast coast, where forgotten ancients built colossal structures from giant lengths of prismatic basalt rock.

I then expected to go on field trips to Ngatik, Mokil, Pingelap, and Kusaie. Unfortunately, a mild outbreak of encephalitis had caused the imposition of a quarantine in some Ponapean villages; so I had to turn back.

Grass Skirts and Stone Money

A few days later I stepped ashore in Yap. I seemed to have dropped into an age as remote as that when Nanmatol men piled up their megalithic structures.

We had sailed by way of Ulithi, whose broad Lagoon I had seen crowded with hundreds of ships of our battle fleet during the war. Now our small freighter was the only craft there, save for a sputtering "duck,"

A Kuparamarungu Boy Does His Rock-drive on a Matang Hummock

[illegible]

or no pay [illegible]

Yap is known to Americans [illegible] land of [illegible] The United States [illegible] World War I [illegible] Japanese right to the island [illegible] of the cable station [illegible] is gone, but the [illegible] remain.*

I have been on the island less than an hour when I was taken to a Yap [illegible] Rows of heavy [illegible] 8 to 10 feet in diameter are [illegible] terraces flanking the roadway [illegible]

These [illegible] were brought there centuries ago from the distant Palau [illegible] They are not money but symbols of wealth as is [illegible] gold hoard hidden at home.

Most native homes [illegible] widely that village [illegible] more often to a district than to a [illegible] community.

[illegible] Yap [illegible] preparation. Part of it also appears [illegible] missionaries [illegible] people.

[illegible] Yap had been a [illegible] Germany. Somewhere [illegible] Now there [illegible] was glad to become [illegible]

Betel Makes Yap's Smile Dark

Except in the [illegible] of Chamorro near Yap Town, hardly a man on Yap [illegible] except his chief, if his family [illegible] permits, a [illegible] wonder [illegible] on his black hair.

Dress of the women [illegible] skirt made of grass [illegible] and [illegible]

* See "A Visit to the Yaps," by James [illegible] in National Geographic Magazine, [illegible]

But everybody—man, woman, and school-age youngster—totes a woven coconut-leaf basket (Plate I). How else can they carry their ever-handy knives, their betel-nut ingredients, and other supplies?

Few Yapese, old or young, are without their betel-quid makings—nuts of the areca palm, pepper leaves, and white lime made by burning coral. When chewed it stains the saliva red and darkens the teeth to a reddish-black color. There are few gleaming smiles here.

Main marks of previous foreign rule on Yap were made by the Germans. They built, or had the natives build, stone paths and causeways around the islands.

They also dug the Tagetop Canal, which slices the large island in two. This narrow waterway forms a hightide passage for small craft between the southern lagoon and the waters around the islands of Map and Rumung.

Our demolition experts have cleared the Yap Town harbor of coral heads to afford a safe landing space for seaplanes. The work had just been completed when I arrived. Later, when the first plane arrived on a trial landing, I hitchhiked a ride to Koror.

The day before the plane's arrival I saw this same harbor alive with native craft. Hundreds of holidaying Yapese had organized a lively regatta and raced both outrigger canoes and whaleboats over the green lagoon.

As soon as the races were over, each village group staged its own folk dances. Group after group of men, women, or children swayed, hopped, and chanted until darkness overtook them.

After watching this primitive Yap spectacle, I found Koror a bit tame.

Japanese Town Almost Obliterated

Under Japanese rule, Koror was chief administrative center for the Mandate. The Japanese built a thriving town here for some 20,000 persons. Practically the whole settlement was bombed, burned, or bulldozed away.

The Navy has erected Quonset homes and offices and is utilizing a few Japanese structures that were not too badly damaged.

Formed largely of rugged upthrusts of coral rock and rimmed by vivid reef waters, the Palaus are a striking scenic group. Many of the small islands are so steep and vine-entangled that one can hardly scramble up their sides.

American troops learned about their rough cave-pitted geography when they wrested Peleliu and Angaur from the Japanese during the war. I came to appreciate it, too, when I sought out an isolated cave where a huge disk of Yap money lies only partially cut from solid limestone (page 82).

Comparatively few Palauans live on Koror, Peleliu and Angaur, now abandoned as military bases, also have small settlements. The majority of the islanders dwell on big Babelthuap, at the northern end of the group.

Babelthuap is volcanic in origin and consequently very fertile. It is 26 miles long and 10 miles wide. But practically all of its interior is empty. The villages are scattered about its rim.

In some villages I found fine elaborately decorated *abais*, or meeting houses, built long ago of huge breadfruit timbers. A few old-style thatch-roofed homes remain, but most of them are small tin-roofed structures.

The chief commercial output of the islands at present is trochus shell, used for making mother-of-pearl buttons. I saw the season's crop of more than 300 tons awaiting shipment. Copra trade is negligible because of the havoc wrought on the coconut trees by rhinoceros beetles.

Yap Raked by Fierce Typhoons

Heavy storm clouds hung over the Palaus when we bounced off the choppy lagoon waters and took to the air. Weather over Yap was so thick we had to pass that island by. Not until we neared Guam did we run into sunshine.

A few days later we were to hear more of this storm front. Suddenly the tropical disturbance had changed itself into a raging typhoon. It lashed over Yap, lifted roofs off warehouses, stove in the walls of homes and the hospital, and damaged food supplies.

Not only was Yap in the path of this roaring demon, but within little more than two months *three* other big blows ripped across the island. The last 110-mile-an-hour gale was followed by two devastating waves.

In the Marianas I found the people of Rota slowly getting their plantings and homes reestablished from damage caused by a typhoon that struck that island the season before.

Tinian Island today looks almost as if a typhoon had hit it, too. Its big B-29 runways are bare except for creeping snails. Its camps are empty and rotting away. Gardens and truck patches have grown up to weeds.

In 1944 and 1945 the island was a teeming airbase. From its miles of concrete airstrips fleets of Superfortresses took off to bomb Japan. Here the atomic bombs were loaded for the strikes at Hiroshima and Nagasaki.

Now Tinian is a ghost island, more barren by far than either Hiroshima or Nagasaki. Our military forces have moved out, and the

Japanese and Okinawan civilians have been sent to their homelands.

Saipan, next door, still functions as a military base, upon a reduced scale. However, this island has a community of nearly 5,000 Chamorros and Caroline islanders.

Until war came, they were a minority people among the many Japanese and Okinawan residents. The Japanese allowed them little, and the war destroyed the little they possessed.

I had seen these folk as they straggled through the Japanese battle lines and made camp in a muddy compound of make-shift shelters. Today the village of Chalan Kanoa is being rebuilt. Many farmers are settled on the soil, other persons have shops, and the Carolinians are operating a fishing company.

Saipan Cherishes Its Electric Lights

The Chamorros are a proud people. They are mindful of the culture they gained from the Spanish, whose blood is mingled in their veins. They naturally wish to regain what they once had.

During the battle for Saipan the island's electric system, like everything else, was destroyed. To provide electricity, needed on the base, our military forces brought in field generators. As an assistance measure they also furnished current to the island homes.

Recently, when the civil administrators were directed to re-establish the people on a self-sustaining basis, the subject of electricity was brought before the native councilmen. They were told that the expense of operating such generators was high, and were given the rates that would have to be charged if electricity was provided.

The councilmen agreed that the villagers could not afford the expense and would have to turn to kerosene lamps or candles.

The people thought otherwise. They ousted the councilmen, elected 13 new members, and decided to keep their lights at whatever cost!

Leaving the Marianas, I flew back to the Marshalls to have a postwar look at that large island group.

I shipped out of Kwajalein by LST with a civil administration field team on a circuit to a number of the atolls.

At the time of my previous visit, many of the Marshallese still were on islands other than their own. Some had been transferred by the Japanese for forced labor. Others had fled from the four Japanese-occupied atolls—Jaluit, Mili, Maloelap, and Wotje—which our forces had by-passed in the Marshall Islands campaign.

Today the people are back on their home islands. They have been unable to occupy places where the Japanese camped, for these were heavily bombed and are still useless. Nor do they use the war-blasted land spots upon which we set up military installations, but they are comfortably settled on adjacent islands in these same atolls.

We stopped at progressive Likiep Atoll, where live the mixed Marshallese descendants of two early Pacific traders, Capelle and De Brum—one a German, the other Portuguese.

When we rode into the lagoon, two midget motorboats came racing out to welcome us. These craft immediately aroused my interest. On other islands I had seen only outrigger canoes.

Later I learned that they had been built by one of the Capelles. He had obtained from surplus war supplies two motors used to operate auxiliary generators in airplanes, and then had patterned the tiny hulls after pictures he had seen in an American magazine!

Almost every part showed imaginative ingenuity. The steering wheels, for instance, were fashioned from 40-mm. shells. He had split the brass casings, spread them out to form spokes, and then attached a rim cut from plywood.

At one stop the island chief asked me to help him make out an order to a U. S. mail-order house!

Among all the Marshallese, the residents of Rongerik seem most uncertain over their future. They were moved here from Bikini prior to the atom bomb tests in that atoll in the summer of 1946.*

Bikini Natives Move Again

Rongerik is a considerably smaller island group than was Bikini, and its food supplies are somewhat more limited. Administrative officials have told the people they might move to some other islands and suggested the rich, hitherto unoccupied atoll of Ujelang.

But they want to go back to Bikini, not understanding the radioactive forces imposed there.

The subject has been discussed many times. And now they are being moved to Kwajalein until such time as they may select a permanent home.

When I left the Marshalls, preparations were also under way to transfer the 158 natives of Eniwetok over to Ujelang. Except for sentiment, they can hardly regret leaving, for several of the main islands were razed to their bare coral bases during the war.

Eniwetok now is the testing ground for new atomic weapon experiments.

* See "Farewell to Bikini," by Carl Mydans, National Geographic Magazine, July, 1946.

On Palawat Atoll, Where Summer Is Freezing, a Lamplighter Is a Wardrobe

Bear like Grizzly: Ursus Spelaeus (Ice Age American or Mount Blanco Bear)

Summer Guests Had Their Gypsy Without Buckwood Glance at the Wreckage of Japanese Houses

You Can Reach Sins from Without Your Conscientious

Slender Coconut Palms Are Salad, Milk, Fuel, Coatbase, Timber and Cash to the Pacific Islanders — Navigator Islands

Pleasure Wives Lose a Back Seat when Husbands Pilover and Please — It's a Man's Island

Curving, Rustling Coconut Palms Frame a Tidy Native House on Moen Island

Truk people are doing their best to make American rule. These comfortable dwellings replace the mud-and-stick huts known under the Japanese. The United States colors flies under the brow of the volcanic hill (Plate I).

Year New Great Stop Mis Tourist Of Here This City a Dreams on Old Island

Fulbosa Dancers Lathering as Much with Arms as with Tattooed Legs — They Slap Their Sides with Cupped Hands

Fatness and Sticks Deck the Beach Couple

Pubienk shoulo Ghost Bis Jar Tribes Stoonced in Pdifice Fashion Mussals a Gorbanded Company

Caroline Girls Carry Couples on Necklaces

[illegible]

Children of the Nassau Islands Line a Stone Pier to Wave Farewells to Teachers. Their School Holiday Was Sad; Many Wept

Small Outboard Motors Are Not Designed To Carry Passengers Over Rough Seas Or Strong

To the Women in Baggy Mother Hubbards the New Dress Is an Old Missionary Story

Liechtenstein Thrives on Stamps

By Ronald W. Clark

ALONE among the countries of Europe the diminutive Principality of Liechtenstein is facing the future with prewar letters, full bank vaults, and hardly a thought of the Marshall Plan.

Lying at the critical junction point between Western and Central Europe, separated from Switzerland on the west by the tumbling upper Rhine and from Austria on the east by a 6,000-foot frontier ridge, Liechtenstein has 61 square miles and 11,000 inhabitants to call her own (map, page 1081).*

It would be easy to claim that it was these two factors, unique size and position, which have made the country what seems to me the most contented corner of postwar Europe.

Not a bit of it. If Liechtenstein were a normal-sized state instead of a pocket showpiece which too few visitors take the trouble to study seriously, it would still form a laboratory specimen of prosperity at work. For the factors which have combined to keep the country in the financial clear are a peaceful past, a sober basic economy, and a unique "industry" which assumes that stamps should be printed to make money rather than merely to be put on letters.

More Than 600 Years Old

Liechtenstein's history is complex and regal. Its status as a sovereign state goes back to May 3, 1342, when Count Hartmann I became ruler of the Principality of Vaduz, the castle-crowned little town of 2,400 inhabitants that is now Liechtenstein's capital.

By 1434 this small province had been enlarged in the traditional feudal way to contain the two separate counties of Schellenberg and Vaduz, both of which were held as immediate fefs to the Holy Roman Empire.

Nearly 300 years later, in 1719, Emperor Charles VI confirmed their possession by the house of Liechtenstein and authorized them to be known as the Principality—the *Fürstentum*—which remains to this day.

Two diplomatic somersaults in the early 19th century gave the country three different allegiances within ten years. In July, 1806, the then ruler, John I, seceded from the Empire and joined the Confederation of the Rhine under the aegis of Napoleon. After the collapse at Waterloo, he joined the German Confederation, and when the Confederation finally expired in 1866 the Principality became politically independent.

Liechtenstein has remained free ever since in spite of strong spiritual ties with Austria—and the attempts of a small group of Austrian Nazis, who, with a handful of Liechtenstein citizens, marched across the frontier near Feldkirch at midnight on March 24, 1939, in an effort to carry out a miniature *Anschluss*.

They were politely handed back across the frontier after their failure, and seven years later, in the summer of 1947, twelve of them were tried by the authorities and received prison sentences.

Wartime Refuge for Escaping Allies

Throughout the war, Liechtenstein remained poised perilously between Hitler and Switzerland. From Liechtenstein's "happy valley" of the Malbun, the German patrols who looked enviously down could be seen guarding the Austrian frontier ridge.

There were, of course, polite diplomatic inquiries from the Reich, inquiries which grew when the number of American and British prisoners escaping to the country from Germany and Austria reached the hundreds. The Germans well knew it would have been much easier to guard the Rhine frontier than the mountain ridge.

Nevertheless, Liechtenstein stuck to her moral guns. She had no other, for the country has had no army since 1868 and the last Liechtenstein soldier died in 1943 at the age of 91.

Even troops from Switzerland were forbidden to enter the country (with the exception of the customs officers allowed under the Customs Union of 1924). All refugees and prisoners of war who were caught were interned, and when Pierre Laval, collaborationist Premier of France, appeared at the frontier in May, 1943, he was politely but firmly told to apply elsewhere for sanctuary.

The traveler who enters the country today can also come along the mountain road from Feldkirch, Austria, but he is far more likely to come from the Swiss town of Buchs. There I dropped off the Arlberg Express before it plunged across a corner of stationless Liechtenstein toward Vienna.

A few hundred yards along the road from the neat Buchs station I was stopped by the gray-clad Swiss guards at the steel bridge across the Rhine. Although the Customs Union between Liechtenstein and Switzerland

* See "Round About Liechtenstein," by Maynard Owen Williams, NATIONAL GEOGRAPHIC MAGAZINE, November 1937.

Here Nigg, Prominent Politico, Chats with Visitors at the Border

[illegible] of the Opposition he has been called "the Winston Churchill of Liechtenstein" (page 1[illegible]). His [illegible] and extra-broad-brimmed headgear make him a [illegible]

[illegible]

It's all the same, I learned, whether you cross with a pass during the lady's afternoon outing or in one of the large Swiss coaches which [illegible] summer months shuttle tourists from Zurich or Bern in and out of Liechtenstein in half an hour.

Main Income from Soil and Toil

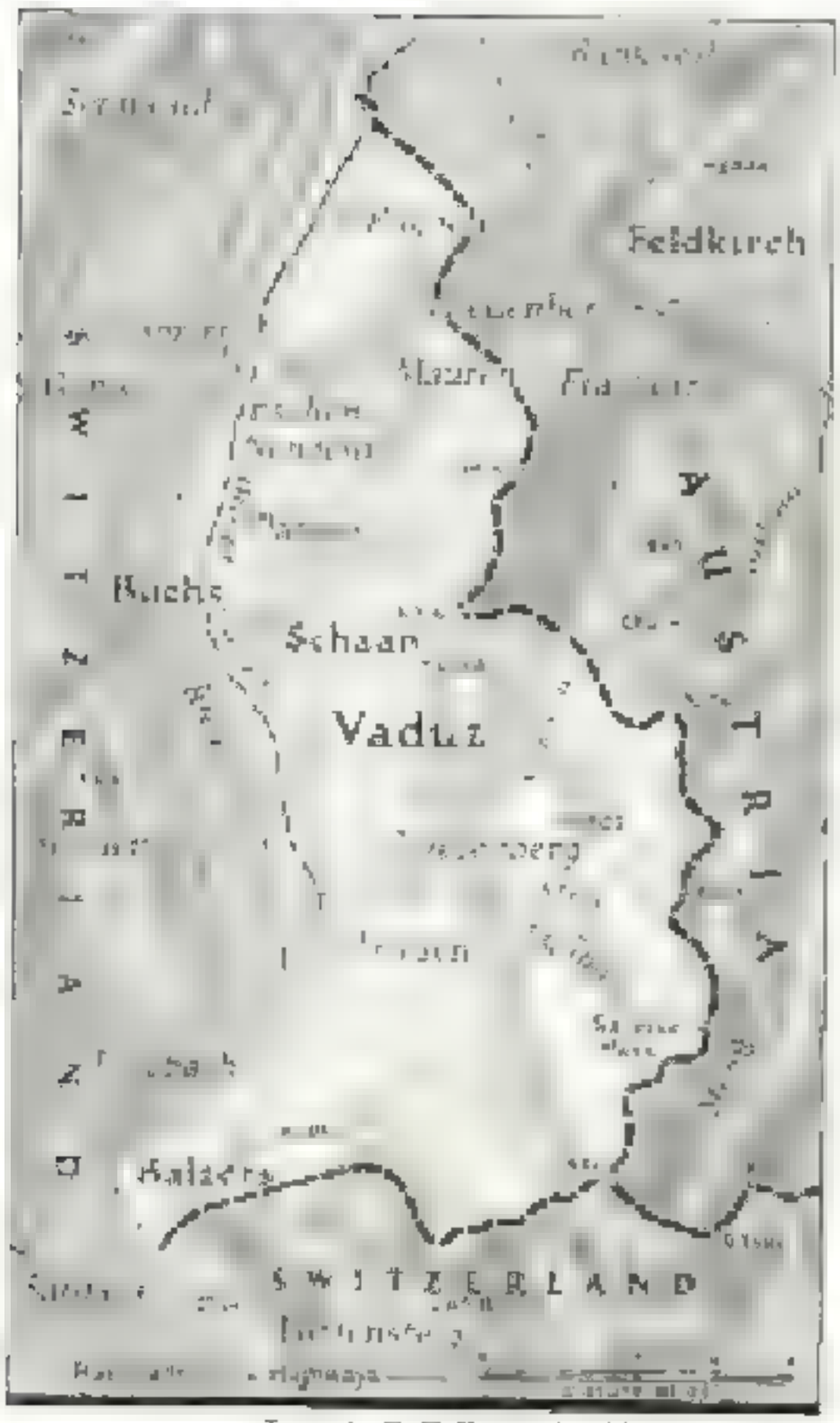
[illegible] however [illegible] Liechtenstein has no [illegible] and [illegible] [illegible] by agriculture [illegible] in spite of the mountain [illegible] which rise from the Rhine toward the [illegible] Vaduz [illegible] wood and [illegible] of Vaduz with [illegible] and rubber [illegible].

On [illegible] cattle raising has been [illegible] by dairy and [illegible] [illegible] but when [illegible] animals are [illegible] [illegible] is [illegible] pretty as well [illegible] dairy equipment.

[illegible] and spinning [illegible] Vaduz [illegible] manufacture of [illegible] and [illegible] [illegible] people [illegible] living [illegible] figures [illegible] Swiss [illegible] revenue (about $727,757) and [illegible] Swiss francs expenditure (about $728,955).

Tending Goebels Around Vaduz, Capital of Pastoral Liechtenstein

[illegible] meandering herd has the main street to itself. Needing no herdsman for this drove [illegible] past the Rathaus (Town Hall) on their leisurely way to pasture. In the Rathaus [illegible] which attract [illegible]



Lichtenstein Is About the Size of the District of Columbia

Though a sovereign state, the Principality contains only 61 square miles and 11,000 people. Its name means "shining stone"—appropriate for an Alpine land of lofty, glittering peaks. Vaduz is its capital. Liechtensteiners are akin to Austrians, but the country's closest ties today are with Switzerland.

There is a national debt, it is true, but at last report it was the Lilliputian one of 3,201,348 Swiss francs (about $747,834) and was being steadily wiped out. It was incurred a few years ago when the Swiss lent money to help repair the ravages of a disastrous Rhine flood.

Stamps Yield Much Revenue

On this sober economic background the musical comedy "stamp economy" of Liechtenstein is based. Following the lessons of supply and demand Liechtenstein for more than half a century has been printing "special issues" in small numbers, printing special envelopes on which to stick the stamps and devising special postmarks for the first days of issue.

There also have been, perhaps luckily for Liechtenstein, a number of those stamp "misprints" for which collectors are willing to pay exceptional prices.

All of this has added up to an "industry" which today brings the country a fifth to a quarter of its revenue.

Next door to the gleaming white Post Office in Vaduz, which cost 200,000 Swiss francs (about $46,720) and was paid for by a single day's sale of a special issue, is the Post Museum, where a stamp exhibition worth many thousands of dollars is permanently housed (page 110).

There I saw, as you may see, the series which raised much of the money for Liechtenstein's 16-mile Haupt Canal, completed in 1943 at a cost of 4,000,000 Swiss francs; the famous "Madonna of Dux," one of the country's rarest stamps; and hundreds of others almost as valuable, as well as case after case of "First Flight" covers carrying Liechtenstein's air stamps.

Stamp-buying Queues Form at Dawn

In the Town Hall, a short distance up the road, other special stamp exhibitions are held every two years. To them flock stamp dealers from all over the world, to buy, to barter, to post on the first day of issue the [illegible] stamps which [illegible] for [illegible] sion, and to listen to the speeches by Liechtenstein notables during what is, for all practical purposes, a national holiday.

The last time I was in Vaduz, nearly 7,000 letters had been posted on the first day of the exhibition in the 2,400 inhabitant town—even though buyers were rationed to two sets each of the new stamp and queues for them had formed at daybreak, hours before the Post Office opened.

The town's small boys were selling their own two-sets ration at a comfortable profit. On the special envelope stamps then cost roughly 50 cents, but a few months later their price had soared to $20.

It was a great day for Herr Rudolf Strub, plump and smiling like most Liechtensteiners and with gray curling hair. As Postmaster General since the 1920's, he is one of the most important men in Liechtenstein, ranking in the hierarchy with his brother David, who is President of the Diet. In his shirt sleeves, he was organizing his staff of ten who were sorting the hundreds of envelopes which had been posted, not because of the letters inside them but because of the stamps on the outside.

Around the Post Office, the Café Real just across the street, and the castle on the crags above them, the life of Vaduz—and of most of Liechtenstein—revolves.

Reagan's [illegible] Liechtenstein's Queen [illegible] to Give to Church

[illegible]

Photo from Swiss Legation

Liechtenstein Literally Stamps Out Poverty

[illegible] treasures in the Post Museum [illegible] for by a stamp issue [illegible]

[illegible] and, the [illegible] both sides of every question [illegible] Government House [illegible] the [illegible] ties, and [illegible] it was [illegible] of the [illegible] country, down to the exact number of chickens its inhabitants own. The last available figures showed, I was told, that there were in the [illegible] cattle [illegible] sheep [illegible] pigs and [illegible] goats.

No Serious Crime or Housing Problem

It was of this in which I was [illegible] I had been told at the Government House [illegible] Prince Josef Friedrich, the chief of police [illegible] had ever broken the law. Nobody else appeared to know.

Franz Josef, whose [illegible] had been commandeered during the war to help patrol the frontier, shook his head and said he had never heard of any serious crime in the country. A few years ago, a lady was pilfering in a store or so, [illegible] this has been done by [illegible] who had made it [illegible] the [illegible] Liechtenstein has, in fact, what must be the world record for keeping the law, although there are [illegible] and cold [illegible] in Vaduz [illegible] power to [illegible] such a case involving murder.

In the unlikely event of [illegible] committing a murder, I was told, the [illegible] fellow would be sent [illegible] the frontier into Switzerland for trial at St. Gallen.

Even if crime is no problem, I expected to find a housing problem in view of the [illegible] and the census figures of 150 marriages a year and [illegible] more births. [illegible]

"problem" I found is that a few people still have only one house. The majority have a "town house" and a chalet in the hills where they go for week ends.

This textbook example of democracy at work has a flourishing and highly respected monarchy. It is literally true that the picturesque castle on the crags, more than 300 years old, forms the spiritual focus of the whole country.

"Fürst" in Hearts of His Countrymen

Here live the *Fürst*, Francis Joseph II, Prince of Liechtenstein, Duke of Troppau and of Jägerndorf; his wife Princess Gina (formerly Countess Gina von Wilczek); and their small heir to the throne, cuddly Prince Johannes ("Hans") Adam Pius, who was three years old last February.

The happy Prince and Princess seemed pleased to show travelers around their medieval home, the lovely hillside castle which appears to have been lifted from the pages of Anthony Hope.

In the castle, which looks across the upper Rhine to the mighty mountains of Switzerland, repose the relics of more than four centuries of regal grandeur, including art treasures from the great family collection in Vienna now under Russian control. Important among them are some wooden Madonnas, almost unique examples of this type of work, and the first flag of Liechtenstein, a tattered proud relic, almost colorless now.

The present pomp and ceremony of the royal family is of the homely kind, however, and it is significant that its members receive no grant from the state, but live entirely on their own private and diminished means.

The family—and the numerous relatives who stay with them—for they have links with a number of the ancient families of Europe—are among the best-loved royal families in the world.

Two-in-One National Holiday

Pictures of the royal couple and of their infant heir are displayed in cafés, hotels, shops, and private houses; the national flag flies from dozens of balconies on the numerous state holidays; and the national celebration of the Prince's birthday (August 16) has been brought forward by 24 hours to make it coincide with the Feast of the Assumption, for most Liechtensteiners—more than 97 percent—are Catholics.

If the Prince is the most popular figure in the Principality, it may well be true that the second man is "The Hat," Herr Ferdinand Nigg, the portly politico who is leader of the Opposition and Public Prosecutor as well (page 106). To visit him in his chalet in the upper Malbun Valley is to get, perhaps, the best bird's-eye of Liechtenstein's geography and of the contentment in which its inhabitants live. I set out for his eyrie.

From Vaduz, where on a clear day you can look north to Lake Constance (Bodan See), and far to the south and east, you climb a corkscrew road that matches in difficulty any of the great Alpine passes, although it climbs a mere 3,200 feet.

A 320-foot tunnel (partly paid for by stamps) pierces the crest of the ridge, and then you have left the rest of Liechtenstein for a new high mountain world and are suddenly looking down on what all of Liechtenstein calls "the last road in Europe."

You reach it, and the valley through which it runs, at Steg, a pimple of a place far below, where you talk to Hans in the customs post, stop at the little inn with its red and white shutters, and meet the happy people who live in the little lonely houses.

On this frontier, Hans the guard is smiling. The empty road is the reason why. For the first time in ten winters there is nobody hurrying down past the church with a tale instead of a passport and a gun instead of a rucksack. Today the inhabitants of the Malbun Valley, which Hans guards, are getting ready for skiing parties from Vaduz rather than for the refugees who once clambered desperately across the Sareiser Pass at its head.

An Anteroom to Sanctuary

Geography and politics, Hans explained, once turned this little stretch of Europe, an unimportant byway on the approaches to the Swiss Alps, into the quietest border zone of the Western World, an anteroom to sanctuary slung between the mountain ridge through which you have passed and the second ridge that cuts it off from the rest of Liechtenstein.

If you have ever come from Innsbruck, as I have done, across the Arlberg Pass where the International Express crosses the watershed on its way between Vienna and Paris, you will understand why. Northwest and southwest the passes lead to Switzerland. It is only due west, across the Sareiser Pass, which leads to the Malbun Valley, that you may reach Liechtenstein.

Across that pass, low enough to be crossed on skis even in midwinter, came the first refugees from Hitler's rise and the last ones from his fall. Spies, Jews, scientists, and ordinary common people who had had enough of the Nazis (and later a few who had had

enough of the Russians) came the same way. For in spite of the Customs Union with Switzerland, Liechtenstein was a little different, partly because its frontiers were less adequately manned.

Refugees could slip back across the mountains if their plans went astray. They could reach the ridge beyond the Malbun Valley, look down on the far river frontier with Switzerland, and, unless they were unlucky, still decide to cross neither Rhine nor metaphorical Rubicon.

A good many Allied airmen and other escaped prisoners of war came over the pass; and, during the shambles of the great collapse in 1945 when the Russians had taken eastern Austria, so did 500 Russians who liked the look of the West.

And, over the red Vaduzer wine, as the guards and peasants close the shutters against the winter cold, they still talk of Martin Bormann, Hitler's deputy, who has never been found.

In Liechtenstein most men were born with Austria in their veins; their fathers were Austrian, and their fathers' fathers before them. Hereditary sympathy, so the argument runs, would have made it simple for a Nazi leader to have lain low in Liechtenstein until the shooting died.

It is an intriguing theory. I have talked it out with hundreds of the men who live here, customs officers and police, men who run the little villages which make up Liechtenstein, and men who live high up in these lovely hills. It seems little more than a theory.

Yet as you mount the dusty road past the little white church into the upper Malbun Valley, Austria is already very near; you sense it in the air. Though what you really smell is the smoldering fire around which the guards have warmed themselves at the end of the night patrol.

The Winston Churchill of Liechtenstein

You reach a wooden Alpen hotel, with its cheery eating room for unexpected travelers and its great black book of names from both sides of the frontier.

And then, beyond the hotel, you see for the first time, peering out under a gray cirque of cliffs and delicate crags, the end of "the last road in Europe."

Nearby I found Herr Nigg of Liechtenstein, smoking one of his famous cigars under one of his equally famous hats. Leader of the Opposition after 38 years in the Government's service, he is the gallon-sized Winston Churchill of Europe's pint-sized country.

Outside his chalet, where the cows sleep in the next room and the pigs in the room beyond that, he smokes away during his short vacations from Vaduz, six miles distant and 4,000 feet below. As he smiled in the strong sunlight and pointed to the frontier ridge, he told of his part in guiding through the difficult postwar years the minute country which even the contented Swiss call "the oasis of the peace."

Herr Nigg, today triple-chinned and in the portly middle fifties, was once a "coming young man" who in the years after World War I played his part in bringing about the Customs Union with Switzerland. The country has responded by turning him into a legend while he is still alive.

From Balzers, his home town near the southern tip of the country, where Gutenberg Castle guards the entrance to Switzerland, to the northern frontier 15 miles away, the Liechtensteiners says: "When the hat is seen, Nigg has arrived and all is well."

Like the continents on his stomach and the thin black *brissagos* from the Swiss Canton of Ticino that he smokes all day, the remark is an affectionate nod at the man with the most famous headgear and the most illustrious silhouette in the country.

Unemployment? Print a Stamp!

Nigg has tastes as simple and as satisfying as his explanation of the country's economic position. "We have got no unemployed," he told me. "When they occur, we sanction a new road and they can do the job of building it. When we need the money we print a stamp."

For 18 years he has gone back, faithfully once every 12 months, to the same gray chalet in the Malbun Valley. His wife does the cooking. His son Victor, a priest still studying at Fribourg in Switzerland, celebrates open-air mass among the chalets; visits the communal farm on the near-by alp, as follows the ancient tradition by scaling the mountains—in black robe and climbing boots. Nigg, "The Hat," indulges in shirt sleeves and discusses the country's future over a glass of Vaduzer at the Alpen hotel.

As he talked of the difficult years, I asked this man, whose career between the Rhine and the mountain frontier has in many ways paralleled Churchill's in the world beyond them, what the secret of his country's prosperity really was.

With horny hands he took his cigar from his mouth, folded his hands across his stomach, smiled in the sun, and answered with just one word.

"Work."

Norwegian Miners, Delving Deep in Spitsbergen's Mountains, Revive a War-wrecked Industry

Coal Mines Hum the Year Round, but Reach Their Peak During Spitzbergen's Four Months of Sunshine

[illegible] where the shadow of a mountain falls upon its neighbor across a narrow valley. The photograph was [illegible] ending [illegible]

[illegible] Great [illegible]

[illegible]

[illegible]

Apart from the mines, [illegible] along the coasts. Their chief quarry [illegible]

Oscar I, No Man's Land, Norway's Arctic Outpost Owes Its Development to an American Engineer

[illegible] were discovered in the 17th century, but mining did not really [illegible]

[illegible]

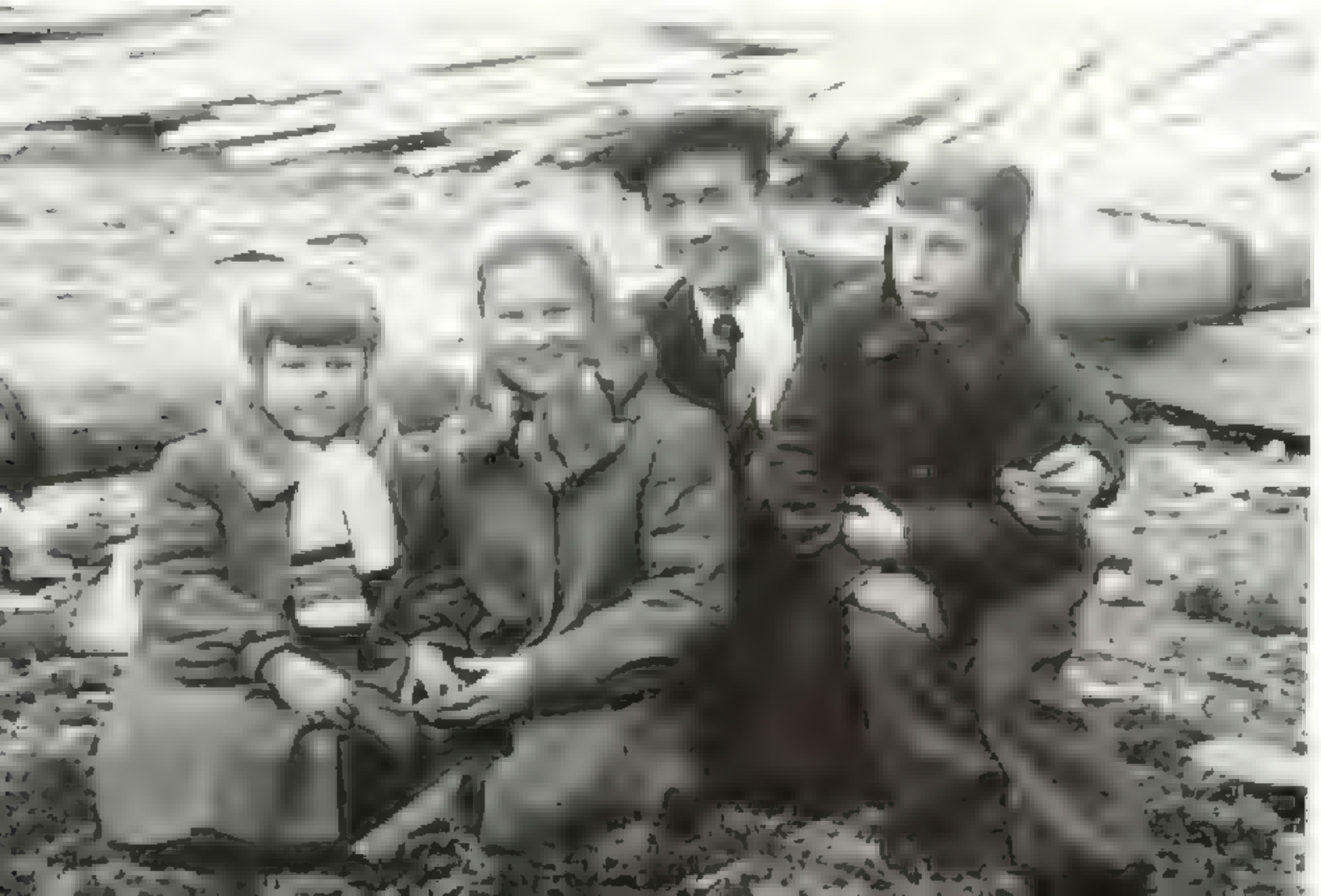
[illegible]

[illegible]

[illegible]

A Solemn Funeral Interrupts Their Playtime near the Top of the World

Russian Children Don Their Sunday Best to Celebrate Father's Day 19[illegible]



From Midnight Sun They Plunge into Blackness to Dig Polar Coal

[illegible]

Some Miners Must Lie Down on the Job

[illegible]

Soccer, Played Against a Snow-flecked Mountain Backdrop, Helps Break the Monotony of Life on Spitsbergen

The midnight sun [illegible]

To Win a Partner at a Spittoonless Dance, a Miner Must Be Fast on His Feet

♦Spitsbergen's First Family Proudly Displays a Newcomer

[illegible]

♥Miners Buy Supplies with Special Spitsbergen Currency

[illegible]

Ceylon, Island of the "Lion People"

By Helen Trybulowski Gilles

INSULAR [illegible] crowns heavenward, coconut palms rising from Ceylon's emerald shore often bend at fantastic angles over dwellings and toward the sea. According to Sinhalese legend, they yearn for human voices and the rustling waves.

As we neared the breakwater of Colombo, the capital, we saw not only those "listening" palms but spires and domes mingling with imposing buildings in the skyline (page 126). In the harbor, among vessels flying flags of many nations, a fleet of colorful *baggalas* from the Maldive Islands rode at anchor.

A few moments later we were standing on the Customs Plaza, looking down a long modern avenue of what was the Dutch stronghold and is still known as the Fort.

For nearly four and a half centuries this pear-shaped island off the tip of India has been under European influence and rule—first by the Portuguese and then successively by the Dutch and the British. But early in 1948—since the time of my sojourn there—Ceylon celebrated its independence, becoming the first British Crown Colony to attain Dominion status (map, page 121).

Finally the inhabitants call their island Lanka, a name often translated "resplendent."*

Both Sexes Wear Sarongs

Under the Grand Oriental Hotel arcade, the first person to greet us was an elderly Sinhalese woman in her traditional low-necked, tight-fitting white bodice and sarong. The latter is also worn by Sinhalese men. She stood offering to newcomers from her little basket the lovely crochet and pillow laces which Ceylon women make.

Rickshaw men immediately clamored for our fare, but not so persistently as one a few nights later who followed us while we took a long stroll, murmuring "Funny lady and gentleman walking one hour—no call rickshaw."

At many of the fine buildings, refaced by lime smears of the betel-chewing populace, smiling shopkeepers greeted us. My old [illegible] for a few minutes. He knew my weakness for Ceylon's rainbow-hued gems—rubies, sapphires, topazes, and amethysts. Even the poorer island women often boast earrings [illegible] with so-called Matara diamonds, which are pale zircons made colorless by burning.

My jeweler still wore a semicircular tortoise-shell comb at the back of his head, above a tiny knot of long, thinning hair. The custom of never cutting the hair prevails among the older generation; in the more remote villages cut hair brands one as having served a prison sentence.

Rare Jewels in Profusion

Hovering over his treasures, the jeweler brought out a huge antique ring. It was studded with more than a dozen different gems chosen to bring their wearer good fortune. Few places in the world have assembled so many treasures in such little space as this Fort shopping area.

Among my prized possessions, from a Ceylon family's treasured heirlooms, are a delicate coconut shell, carved in a bygone age by a Galle master, and a gold filigree creation by a Jaffna craftsman of old. This last is exquisitely set with pearls and rubies and mounted on polished yellow tortoise shell resembling amber. Jaffna's jewelers today limit themselves to simpler filigree.

Silver I repoussé always wins admiration. Craftsmen serve apprenticeship as youths at the Kandy Art Museum. There we saw them learning cutwork and repoussé on small brass articles. Later they work with silver and copper overlay, finally graduating to silver. Many of their designs are copied from stone carvings unearthed at ancient temples.

A wonderful repository of Lanka's ancient lore is Colombo Museum in Cinnamon Gardens, a cinnamon reserve in Dutch times. Now it is a residential quarter with spacious mansions set in lawns carpeted seasonally with the soft blue petals of the Jacaranda. Many of its avenues become a riot of bloom as the flamboyants blaze forth in orange and flame.

Like a tonic was an early-morning canter through Victoria Park, where from several points the dome of the Town Hall loms through the trees. In the vicinity are modern hospitals.

My foreign visitors were always delighted with the splendid exhibits at the Museum where there are excellent copies in oil of the famous frescoes of Sigiriya (page 135).

Dutch furniture sent me on a hunt for one of those rare Dutch chests ornamented in brass and silver and studded with copper V. O. C. (Vereenigde Oost-Indische Compagnie) cities of the United East India Company.

* Ceylon was known to the ancients as Serendib and Taprobane. Sinhalese is also spelled Singhalese and Cingalese. See "Adam's Second Eden," by [illegible] Sedmore, in the NATIONAL GEOGRAPHIC MAGAZINE, [illegible] 1912.

A Kandy Chief Gathers with Kinsfolk

[illegible] and [illegible] in [illegible] kerchief.

[illegible] jewelry.

Day-Long Parade of Hawkers

[illegible] washerman [illegible] the [illegible] kerchief.

[illegible] hawkers [illegible]

[illegible] peddler with his [illegible] [illegible] afoot or on a [illegible]

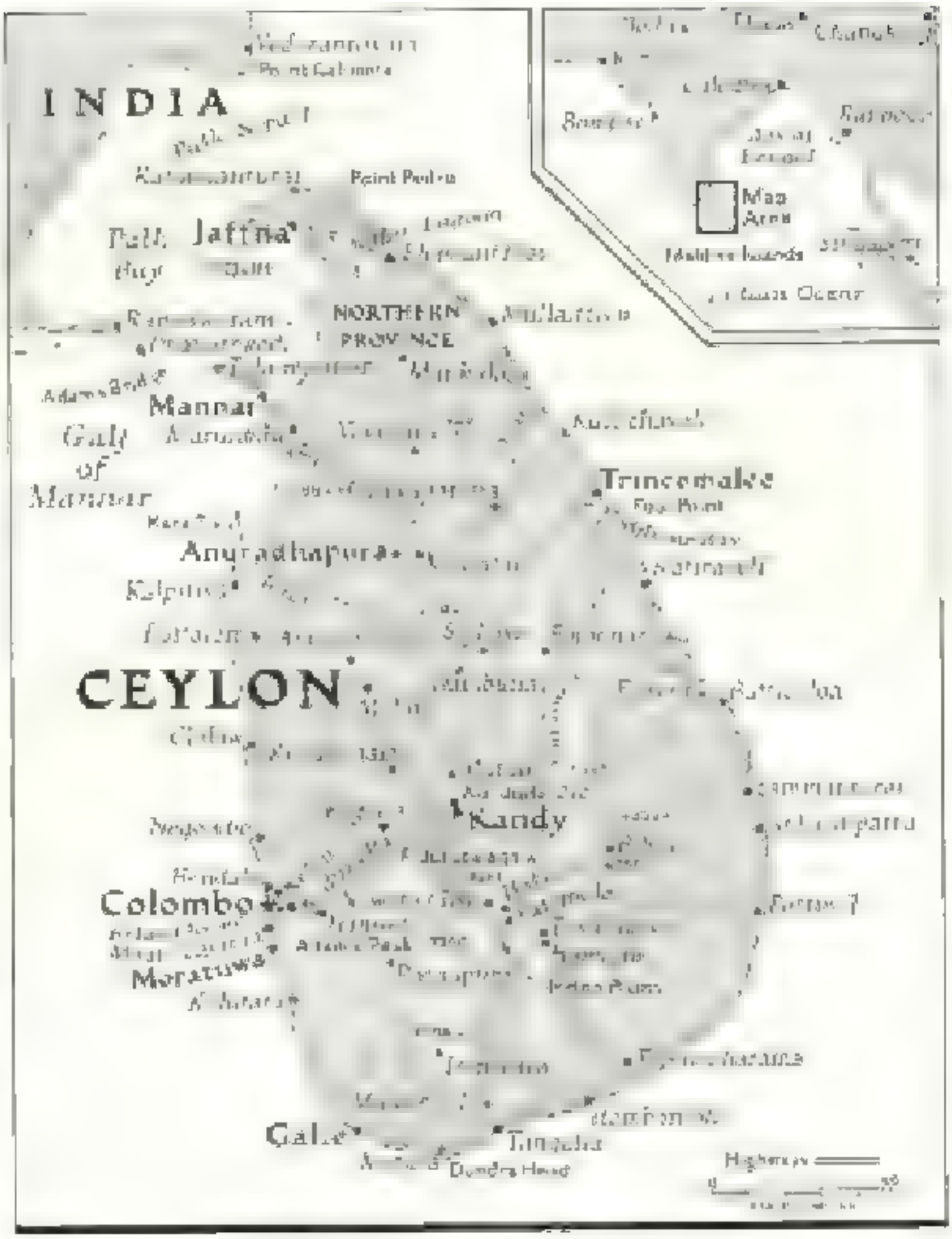
[illegible] gives a vivid picture under a dazzling sun [illegible] animated. [illegible] stage along narrow

streets lined with rows of small shops operated by suave Indians and astute Moors. Because some of these Mohammedan merchants, usually called Moormen locally, are the first to open and last to close their establishments, the Islanders jokingly allude to them as *kokkas*, or crows.

The bustle and traffic move past the ornamental façade of a Hindu temple, Mohammedan mosque, or Government Kachcheri (administrative offices), while rickshaw men rest around the old belfry, relic of former days.

Bicycle bells ring, tramcars clang, rickshaw men shout, and motor horns blat, impatient to make progress through this melee down Main and Cross Streets, which is further impeded by the slow-moving bullock carts.

Driving a car through this maze of traffic taught me patience. Invariably a pedestrian decided to squeeze through just as I had a chance to move forward.



Tea and Rubber Bring Wealth to Ceylon

Slightly larger than West Virginia, this island off the coast of India supports a population of more than 6,500,000, [illegible] of them are native Singhalese. Ceylon recently became a British Dominion, the [illegible] Crown Colony to attain that form of government. Ruled first by the Portuguese, then the Dutch, the island came into possession of Great Britain more than [illegible] years ago.

Here the frail, delicately featured Singhalese mingle with duskier Tamils, Malays, Cochins, all in search of bargains in cloth, shirts, shoes. Many go first to Sea Street to borrow from the *chettiyars*, who sit calculating on an abacus the interest that will accrue from their loans. A chetty is always ready to make loans at flagrantly high interest rates.

Street of the Moneylenders

Other moneylenders are the well-built Afghans, whose presence in the Pettah or elsewhere denotes that they are in search of some debtor. Arab horse dealers from the Hejaz stand transacting business with prosperous turbaned, bearded Borah grain merchants from India. Betel sellers with loaded trays parade their beats.

Similar colorful gatherings occur on a smaller scale in Slave Island and around the Fort and Maradana railway stations. Among the mechanic class of Portuguese extraction there I occasionally heard spoken a dialect of their ancestral tongue.

More vociferous is the babel in the Pettah markets, to which the rich produce of the maritime belt finds its way. Arecas, cashews, and coconuts arrive by the thousands. I never imagined there were so many different varieties and sizes of bananas and mangoes—dozens, in fact, and all of different flavor.

Ceylon Farmgirls Learn to Drive Tractors in England

[illegible]

A WAC Sergeant and Singalese Friends Compare Headgear

[illegible]

And [illegible] to spend [illegible] in [illegible] the [illegible] on the harbor [illegible] the [illegible] advantage [illegible] Queen's [illegible] originally [illegible] land ground.

[illegible]

[illegible] where [illegible] Among [illegible] their [illegible] [illegible] I [illegible]

[illegible] the [illegible] Peninsula [illegible] it was

Cosmopolitan Colombo, Ceylon's Capital, Rims the Indian Ocean and Encircles Two Freshwater Lakes

Jungle Encroaches on the Ruins of Polonnaruwa, Ceylon's Royal Capital of 600 Years Ago

[illegible]

Under an Instructor's Watchful Eyes, St. Bede's College Boys Strike a Leg in a "Keep Fit" Drill

Pilgrims Peer Through Glass at Gems of Jewels and Precious Stones

Slowly they make their way along the procession path to Kataragama [illegible] Journey [illegible] (page 141). They gaze upon trinkets, some of which may have [illegible] 100 Buddhas [illegible] A few of the Sinhalese men will [illegible] in a dishevelled [illegible] hole in place [illegible] (page 134).

[illegible] day life of the place's early occupants.

August Week's gala season in Colombo [illegible] crowned with its endless entertainments, sports events and tournaments, ushered in by the races, at which the Governor arrived in the state coach.

Races Lure Even Villagers

What a [illegible] attends these race meets! They lure villagers from miles around, including *mudalivas* and *arachchis* (district headmen). [illegible] But mamma's [illegible] on her daughters. Crestfallen [illegible] rupees letting at the [illegible] before [illegible] West [illegible]

These visits to the [illegible] are the rare occasions when most [illegible] wear shoes. After they had pounded the hard pavements for a few hours, it was not surprising to see them padding along more happily, barefoot carrying their shoes.

The ordinary man wears a sarong and white coat; in a woolen coat he is well dressed. A gentleman is unmistakable [illegible] heavy chain beneath his [illegible] which holds up his sarong. Some of the older generation wrap a sarong over the trousers of a conventional Western suit, yet [illegible] enough to show the trouser legs. A topee and umbrella complete this outfit.

Ceylon women in simple bodices and sarongs are attractive, dainty creatures. They wear their long raven tresses in buns at the nape of their necks. When they drape themselves in *saris*, no wonder poets sing their praises.

[illegible] visitors from the villages, [illegible] "breeze" at Galle Face green is a memorable experience. Stretching before the [illegible] Galle Face Hotel, the green overlooks [illegible] the Indian Ocean, with perhaps a few [illegible] Here tribal [illegible] (page 12).

Others come to [illegible] to watch the snake charmer blowing [illegible] for the uncanny performance of his spectacled cobra. At eventide the sky above the surf paints the crazily patched sails of fishing craft in rich russet colors.

Even more entrancing on a moonlit night is the seascape from the promontory of Mount Lavinia, the Biarritz of the East.

No festive season is without its feasting, when Ceylon families gather for Lucullan

Peeling Cinnamon Bark Calls for Both Hands and Bare Feet

[illegible]

curry meals traditional [illegible] of the Netherlands [illegible] Indies households [illegible] commonly curry [illegible].

My first curry luncheon burned me to tears, but after some months I could enjoy a hot curry with [illegible] of a gone pepper [illegible] the hotter [illegible] popular [illegible].

At the time of the Buddha's Holy Tooth festival [illegible] demonstration [illegible] elaborately decorated cart drawn by white bullocks moves along the main coastal highway, the Galle road, in the procession of the Hindu Vel festival.

Sightseers make their way afoot, or by bus and train, to the famous Kelaniya Temple located on the spot where Buddha [illegible] converted a native Naga [illegible] prince. The temple stands by the side of the Kelani River, which [illegible] into the sea near Colombo, Ceylon's capital.

From the Kachchi Ela or Hanwella rest-house, which overlooks this beautiful Kelani River and shows [illegible] mountain and island [illegible] groups of men, women and children at holiday, bathing themselves and their buffaloes.

Ferries, many of their passengers bound for the village of a tribe of native physical [illegible] current.

Sinhalese Descended from the "Lions"

[illegible] in Colombo, however, scarcely [illegible] the true atmosphere of the island, [illegible] of whose population is Sinhalese. [illegible] Seven-Hundred-Year-Rock, the Sinhalese [illegible] from India, who, with [illegible] followers, is believed to have invaded Lanka from India about 500 B.C. (543 traditional [illegible]) and married a daughter of the aboriginal [illegible].

These invaders called themselves *Sinhalese* ("Lion People," after [illegible] Sihabahu (Lion Arm), a [illegible] north India. A lion [illegible] and [illegible].

In the jungles of the eastern [illegible] we came upon [illegible] of the primitive Veddas, possibly a pre-Dravidian race of great antiquity. They [illegible] with bow and arrow, collect wild honey [illegible]. Their numbers are fast dwindling, [illegible] as they become [illegible]. Most Tamil and Sinhalese [illegible].

Fascinated as we had been by Colombo, we welcomed the news that we should ultimately be stationed at remote Tangalla, gateway to the southern jungle. Nature has lavishly bestowed unrivaled diversity of scene upon this favored isle.

Traversed by road or rail the palm-fringed coast, the arid northern regions of palmyras, the ancient ruined cities in the jungles, the almost treeless, rolling, grassy expanses of the middle elevation, and lofty peaks of the glorious hill country which had required such engineering skill to penetrate. Changes of recent years have failed to shatter an age-old serenity or to disturb deep-rooted customs of this little realm.

In the sunlight, thatched dwellings of fishing hamlets appeared as tawny as the sands on which frail outrigger canoes were beached. Hollowed out of tree trunks, these canoes had outriggers and masts joined and held fast by coir rope. Every sunset they bear the island fishermen far out to sea.

Lanka's Fishing Fleet Glows at Night

Usual garb of these fishermen is a sarong and derelict straw hat studded with hooks, to which they add a thick blue jersey as they set out with harpoons hung with rope and lines slung over their shoulders. The lights of Lanka's fishing fleet formed a glimmering chain for miles along the distant horizon.

While we were in Colombo, we frequently visited the fishing community at Mutwal near the harbor. On weekdays it was busy with fishing, but on Sundays, when church bells peaked, beaches were deserted except for a few men placidly mending their nets.

Men arrive periodically from India to barter nets for corklike *kumuldella* (*mulla dubia*) logs. When their purchases are completed, they tie the logs into rafts and return on them to their home ports in India.

Duty kept us a few months at one of the largest fishing colonies, Moratuwa, a bustling township of about 50,000, just twelve miles south of Colombo. Every morning we were awakened by a melodious *ho-li ho, ho-li-hoh*, chanted by fishermen dragging in their heavily laden nets. Eager hands on the beach were ready to assist them, and with amazing speed the catch was sorted, auctioned, packed in baskets, and rushed to markets.

Moratuwa owes its prosperity to the fishing industry of its forebears. Many of its fine churches, mansions, and schools are mute testimony to a golden age when fortunes were made. In our mansion in a coconut grove along the sea front we were virtually lost among twenty rooms.

On a hill adjoining the fishing colony we found carpenters in their own settlement, producing in palm-shaded open sheds most of the furniture admired in Colombo shops.

The day finally came when we could continue on to our southern station.

Early risers were scrubbing their teeth with coconut twigs and performing their ablutions in the garden. Mothers were bathing their infants in the sunny compound. Children trudged toward vernacular schools in the villages, or to English schools in the towns. Stray dogs sunned themselves in the middle of the highway. Aged bullocks, abandoned to their fate, ambled along before our car.

When we suggested to the carter who supplied us with water that he have his old bull slaughtered, he burst out, "What? My bull? Never! Why, he is like my father. He has fed me!"

At a tavern, where a smoldering coir rope dangles conveniently to light a cigarette, a [illegible] leaf torch, we saw young men killing away their time, chatting, gambling, smoking, chewing betel, or drinking tea, toddy, or arrack. Others slept, even while standing. Outside, a bullock cart moved along unguided; the driver, asleep, had fallen from his perch.

Endless streams of humanity bound for market with produce harangued so loudly we thought they would come to blows. Markets are great meeting places, particularly animated at polling time since the franchise was extended to women.

Women carrying bundles of coconut husks on their heads were bound not for market but for some sequestered bay or lagoon, to soak these husks. Months of retting loosens the fibers, later exported as coir or made into rope, mats, brooms, and brushes.

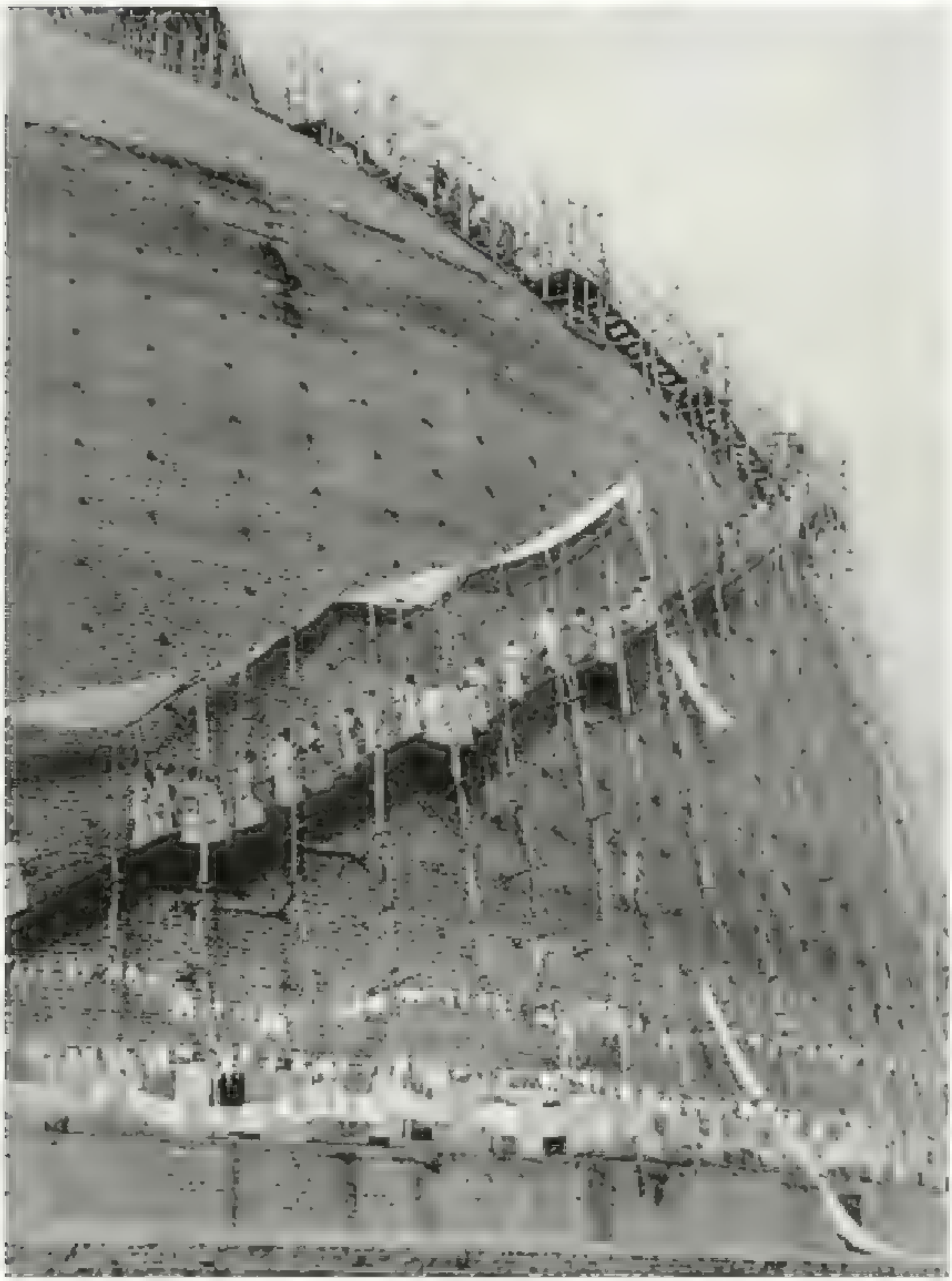
We discovered several villages devoting their entire energies to rope making. I saw many a village woman working far into the night in her miserable hovel, twisting coir into rope by the light of a tiny oil lamp.

Coconuts More Precious than Gold

At another village an old man was arranging split coconuts in the sun to dry. They become the copra of commerce, valued for its oil content and residual cake for cattle fodder.

Coconuts are indeed the wealth of this west coast. Groups of men, a caste apart, arrived punctually in season to pluck the matured nuts. Climbing the palms monkeylike, with only the aid of a rope around their ankles, they dropped the coconuts into our grove, like manna from the skies.

From its rootlings to its uppermost branches



Desert Pilgrimage Cyclopean [illegible] Feet in the Top of a Bell-shaped Stone

[illegible] Amongst the [illegible] its building stone in the foundations are of gold and silver, placed there by [illegible] [illegible] Page 1.

this marvelous palm, which is the villager's most precious possession, has hundreds of uses. Once I saw one growing through a roofless. Its owner had built his house around the tree rather than cut it down.

Men along the road in loincloths, a few tools at their waist, were toddy tappers, who climb the trees and tap the delicious liquid from the buds of the coconut and graceful kitul palms. Much of the liquid from the latter is made into brown sugar, or jaggery; coconut toddy on distillation becomes the native liquor, arrack. There is a saying that when a European can drink arrack and enjoy a Jaffna cheroot, he will never leave Lanka's shores.

After its introduction into Ceylon in 1876, Para rubber (*Hevea brasiliensis*) was first grown commercially at Kalutara. During the boom, many fortunes were made. Then came the depression. How it pained us to see mature rubber trees falling to the ax! But during World War II Ceylon rubber again came into its own. With copra it made a valuable contribution to the war effort.

Largest of the island's industries is tea cultivation, though the coconut is most important to village economy. Other products include graphite, citronella oil, cacao, cinnamon, areca nuts, cardamoms, rice, and a coarse grade of tobacco.

Owners of vast estates and rich graphite mines at Kalutara derive great satisfaction from their orchards of delicious mangosteens.

We were charmed with the gaily decorated baskets, beach hats, and purses woven by Kalutara women from stained leaves of the wild date palm.

Near Galle we drove under archways hung with coconuts, fruits, and flowers, erected to welcome the Governor. Thus, too, were monarchs of old honored when they toured their kingdom.

Galle's Sons in Far Parts of the Globe

Galle's fortress, containing many fine Dutch buildings and an interesting old church, is a city within a city of approximately 50,000. Moorman, descendants of early Arab traders, are still the greatest traders in Galle, but the spirit of adventure lives on in the blood of other Galle sons. Their roving disposition has led them to far corners of the globe. We once chanced upon two Sinhalese Galle jewelers in the Canary Islands, of all places.

Farther along the coast, Matara's well-preserved Dutch fort overlooks several charming islets rising from a turbulent sea.

In this ancient seat of Sinhalese learning and monastic center ascetic-faced Buddhist priests, carrying umbrellas or palm fans, waited before humble dwellings for rice or alms, lost in meditation. Many a pious Buddhist islander will turn back from a journey if the first person he meets is a priest. Such an encounter is considered unlucky.

All this southern belt had a resplendent era in a dim past when it was called Rohana. An ancient bathing pool remains at Tangalla. At Tissamaharama among the jungle's ruins, is a reconstructed *dagoba* (bell-shaped shrine) originally built around 200 B.C.

No Buddhist Will Kill an Animal

Probably the most beautiful stretch of the island's coast is around the palm-fringed area of Tangalla. Buddhist fishermen brave the deep to battle shark and swordfish, but they are loath to kill even an insect. In their profession they claim they do not kill—they merely remove fish from the water. My Sinhalese cook would not break an egg. Yet they do not hesitate to murder when provoked.

Our Sinhalese servant proudly conducted us over the ancient temple and monastery of Mulkirigala, atop a sheer rocky mass visible for miles. The monastery is venerated for the fame of its scholars and for the discovery here of a commentary on the *Mahavamsa*. This made possible an English translation of the Pali chronicle of the island's dynastic history.

We removed our shoes before entering the holy of holies, where enormous elephant tusks, brown with age, were mounted. In keeping with that eternal peace realized by attainment of *nirvana*, worshipers knelt before giant figures of Buddha and images of his disciples.

A veritable delight is the Tissamaharama jungle in the southeast. To come upon a jackal was common. One morning a mongoose had hardly disappeared when a herd of deer flashed past a few paces from us. In an open glade a peacock posed as if for our benefit, his tail unfurled in splendor against bush dotted with fragrant wild jasmine.

These beautiful birds belong to the gods and are sacred to Hindus. But peacocks in our garden seemed to bring us no end of misfortune, and everyone's advice was, "Get rid of your peacocks."

A kingfisher's gorgeous blue plumage shone like a jewel as he darted to another perch. Orange-winged parrots were so numerous that they provided many a meal. After a shower, a patch of brilliant scarlet among low bushes betrayed a jungle cock and his inconspicuous mate, seeking escape from the dripping of arcaded paths.

Herds of wild elephants crossing the road

Pilgrims Buy Floral Tributes at Kandy's Sacred Temple of the Tooth

[illegible] temple the relic venerated as a tooth of Buddha rests on a golden lotus flower hidden under seven bell-shaped and jewel-studded metal shrines (page 1[illegible]). The "sacred tooth" is said to have been brought to Ceylon about A. D. 325. It is a bit of discolored ivory, about two inches long and less than an inch in diameter. On festival days, such as [illegible] of Lent, ornament the temple within and without

to a tank or drinking pool frequently delayed us. How very natural was mama elephant's reproof of her wayward child, a few smarting blows from her trunk!

Strong winds ruffled the waters of the great Tissamaharama Tank. One of many scattered over the island, it was built in a long gone age to irrigate the vast rice fields which fed a population probably larger than the island's now [illegible]

With the [illegible] tanks fell into ruin, and encroaching harsh jungle added to the devastation. In modern times some of these tanks have been restored.

Ridged backs of crocodiles rode the surface of the Tissamaharama Tank, which teems with rich bird life, ranging from several kinds of storks and the lovely purple coot to tiny sunbirds, cousins of the hummingbird.

Man-eating Crocodile Meets His Doom

Man-eating crocodiles occasionally menace villagers, even though they bathe within diked sections of tanks or rivers. One such monster eluded capture for years. When he was finally trapped, we saw amused villagers [illegible] as his numerous victims—legless or armless—looked on.

In a long ago age Tissamaharama must have been more densely populated than its present small settlements would indicate. Here we found banana plantations overrun with frolicsome monkeys, chattering among the [illegible] hanging from [illegible], or sitting in a long row on a [illegible] and gazing speculatively at us.

Farther on, as we climbed a steep Hupatale pass, from whose heights we glimpsed the sea at Hambantota, we could scarcely breathe in fast enough the clear, crisp, exhilarating air, so redolent of tea. All around lay mountains covered with symmetrical tea bushes and shading grevillea, the Australian silky oak.

Comely Tamil women in bright garb, with rings in their noses and arms encircled with bangles, made colorful splashes among the greenery as they deftly nipped the young leaves and dropped them into baskets on their backs. Among them moved turbaned supervisors.

These estate Tamils, considerably enriched after a period of labor in the island, form a floating population of about three-quarters of a million, many of whom travel back and forth between India and Ceylon.

Since 1840, when plants from Assam were

Sinhalese, Tea Growers for a Century, Finally Learn to Drink It

[illegible]

devastated Ceylon tea has gained world [illegible] [illegible] and [illegible] [illegible] thousands [illegible] [illegible] to support the world?

Tea grows at any height up to 7,000 feet, but only at elevations above 4,000 feet does it develop its most flavor. Some of the finest tea we ever drank came from Uva [illegible] and [illegible] [illegible] Nuwara Eliya. Nowadays, however, [illegible] [illegible] [illegible] [illegible] [illegible].

Diyatalawa, perched in a [illegible] valley, [illegible] [illegible] [illegible] [illegible] [illegible] because of its [illegible] climate. Boer War prisoners were [illegible] here, and later [illegible] [illegible] [illegible] [illegible].

From Diyatalawa to Haputale, at the summit of the [illegible], we climbed to 4,500 feet above sea level. [illegible] [illegible] [illegible] [illegible] through tea and [illegible] along steep [illegible] overlooking gorges and ranges spread in [illegible] of soft yellow, [illegible] [illegible] and purple.

A mountain climb from this point took us through [illegible] [illegible] hung with [illegible] mossy growth. [illegible] [illegible] as they raced down slopes [illegible] [illegible]. Finally we [illegible] windswept Horton Plains. At 7,000 feet we were rewarded with a [illegible] [illegible] view of the valley [illegible] [illegible] below.

[illegible] frost is not uncommon at these heights. In the small valley of Nuwara Eliya, health sanitarium and playground at 6,200 feet, on which many [illegible] Pidurutalagala, Mount Pedro, looks down [illegible] [illegible] [illegible] [illegible] flowers and vegetables grow all year round, and six miles away are the Hakgala Gardens [illegible] [illegible] [illegible].

Though we were [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]. Reaching part of the way [illegible] [illegible] [illegible] [illegible] [illegible] descent down steep [illegible] [illegible] hair-raising

[illegible]

Big Bamboo Scoops, Swinging from Tripods, Irrigate a Ceylon Rice Field

[illegible]

[illegible] in lands where Nature defies all efforts to keep order, as vegetation grows with bewildering abandon. New hazards met us as we encountered [illegible] diversions, which threatened [illegible] set up to [illegible].

Amid this overwhelming luxuriance, the [illegible] City of [illegible], a [illegible] of the [illegible] found in the [illegible] as the [illegible].

It was Sunday and the market place swarmed with [illegible] from plantations [illegible] around, stocking up with provisions. Every corner was a [illegible] meeting spot.

Butterflies Go to Die on Adam's Peak

For centuries white and yellow butterflies swarming east were making their [illegible] last flight, we were told, to the Mountain of the Sri Pada (Sacred Foot[illegible]). On the top of famous [illegible] Adam's Peak, venerated by millions of several faiths as sacred, thousands of pilgrims annually journey to pay homage at a depression resembling a gigantic human footprint.

Through more forest and [illegible] we arrived at Kurunegala, at the [illegible] of a [illegible] rock [illegible], one of the most remarkable outcroppings on the island. Northeastward we again entered jungle at Dambulla, where, long ago, another gigantic rock formation was hollowed into five richly embellished temple caverns.

Not far distant is the historic rock citadel of Sigiriya, which rises some [illegible] feet from the [illegible] plain like a [illegible]. The [illegible] of nearly [illegible] steps to the summit.

But we made the precarious ascent [illegible] which [illegible] years old [illegible] their freshness to this day. From the [illegible] the [illegible] Sinhalese [illegible] eighteen years around the end of the 5th century.*

Among the most sacred ground at [illegible]

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* See "Sigiriya, A Fortress in the Sky," by [illegible] National Geographic Magazine, [illegible]

worship in Ceylon, from Mihintale to the ancient capital of Anuradhapura, we saw countless monuments and relics of highly developed old civilizations (pages 128 and 131).

Some miles east we arrived at the tree-wooded old harbor town of Trincomalee, near which the island's longest river, the Mahaweli (Great Sandy River), pours into the sea. To build their fort at Trincomalee, the Portuguese demolished the celebrated ancient Temple of a Thousand Columns, but its site is still sacred to Hindus.

Arid Jaffna Plain Supports Many

Not till I visited the Jaffna peninsula in the northernmost part of Ceylon did I fully realize the rich contrasts this fair island offers. Palmyra palms and tamarind trees dot what appears to be an inhospitable arid plain; yet it supports a population of several hundred thousand.

In Jaffna, capital of the Northern Province and second largest city on the island, with over 60,000 inhabitants, the stout Dutch houses with their spacious verandas make comfortable dwellings still. Certainly the Dutch favored space, and in Jaffna's fortress the commandant's quarters might have been designed for giants.

All this northern belt sees rain only a few months a year. To produce great quantities of tobacco, some of which is exported to southern India, the Tamil farmer must diligently irrigate his fields (page 135).

Very opportunely our return journey carried us through the Kurunegala district in time to witness a rare event, an elephant drive near Ambanpola. The Wanniis from the forests have been privileged for centuries to drive wild elephants to the *kraals*. This operation sometimes occupies two or three thousand men several months. When at last they near the village kraals they are weary but tense, for there remains the "drive-in."

The first attempt at this drive-in was frustrated by a large cow elephant stubbornly obstructing the entrance. She had to be shot. However, the next day's drive-in was successful. And what a cheer went up as the bars were slipped over the entrance of the great stockade!

Trained decoy elephants then cleared the area of trees to make room for the combat between them and the leader of the wild herd. They soon had him encircled and held, as in a vise, while a daring mahout slipped a noose about his hind leg.

Thus these captives, like so many others before them, become in time docile as children. We saw them at their bath in the river at Katagaseta near Kandy, or stripping and crunching with evident pleasure banana plants and kittul palms offered them.

Famous hill capital of the Kandyan kingdom and home of upcountry Sinhalese, Kandy encircles a lake that was once a paddy field and spreads over a necklet of hills, verdant with flowering trees, feathery bamboos, and graceful palms. For some 300 years Kandy remained unsubdued behind a natural stronghold of rock, which was pierced to make the road only after the last Sinhalese ruler had ceded his rights to Britain in 1815, terminating a dynasty that can be traced back more than 2,000 years.

In Kandy is the Temple of the Tooth, sanctuary of a much-traveled, prized relic of Buddha (page 133). During the Esala moon Buddhists flock to the city to pay homage to the sacred relic and view the spectacular Perahera processions.

During the festival Kandy's normal population of about 30,000 is augmented by crowds that fill the streets many rows deep, old and [illegible] nursing children, young people gay with laughter, all patiently waiting for the Perahera to pass.*

An *Arabian Nights* Dream

Shortly before nightfall the boom of a gun was heard, and from the shadows appeared a bewitching fantasy. Heralded by whip-cracks, dozens of elephants moved forward with measured tread.

His tusks encased in golden sheaths, majestic, aged Hetagammana carried on his back under a handsome canopy the casket of the sacred relic. Other elephants followed, three and four abreast, some bearing priests reverently holding *ola* (leaves of the talipot palm) books inscribed with stylus in Sanskrit or Pali.

Between groups of elephants ponderously walked officeholders of many ranks in quaint Kandyan costumes. I can believe it takes hours and several assistants to dress a chief in this regalia, which involves wrapping 40 yards of silk around the waist (page 122).

Dancers, musicians, acrobats, stilt walkers, and jesters—all performed their roles, holding spellbound the vast multitude, including ourselves, with a spectacle that might be a tale from the *Arabian Nights*. As we watched in wondering enchantment from the balcony of Queen's Hotel, the Perahera passed before us like a miraculous dream.

* See "The Perahera Processions of Ceylon," by G. H. G. Kinnaugh, National Geographic Magazine, July, 1932.

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[illegible] by the National Geographic Society and the U. S. Army [illegible]

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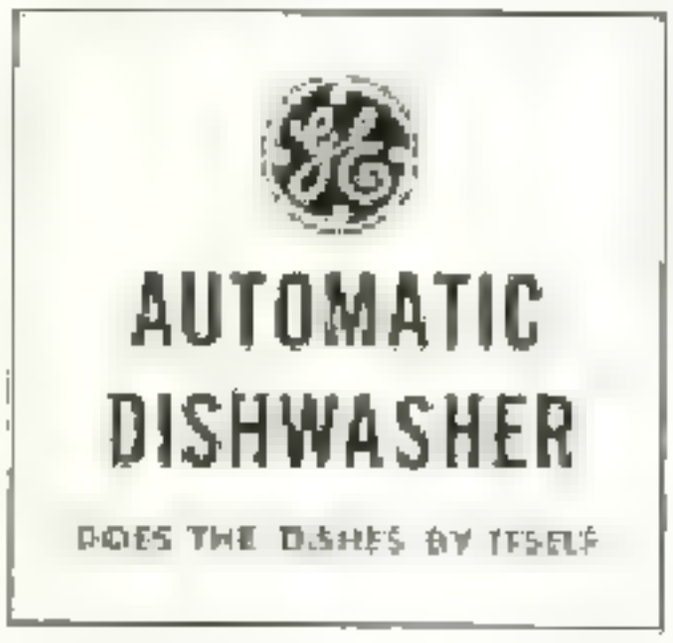

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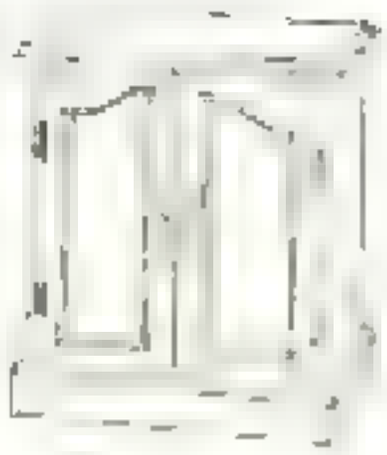

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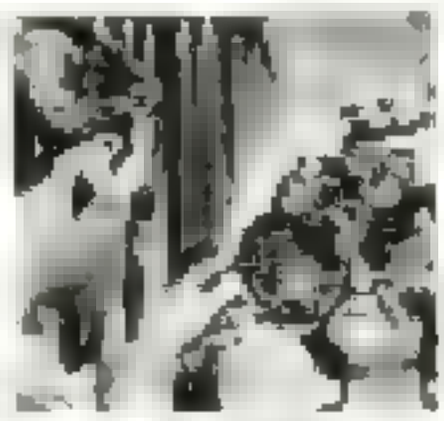

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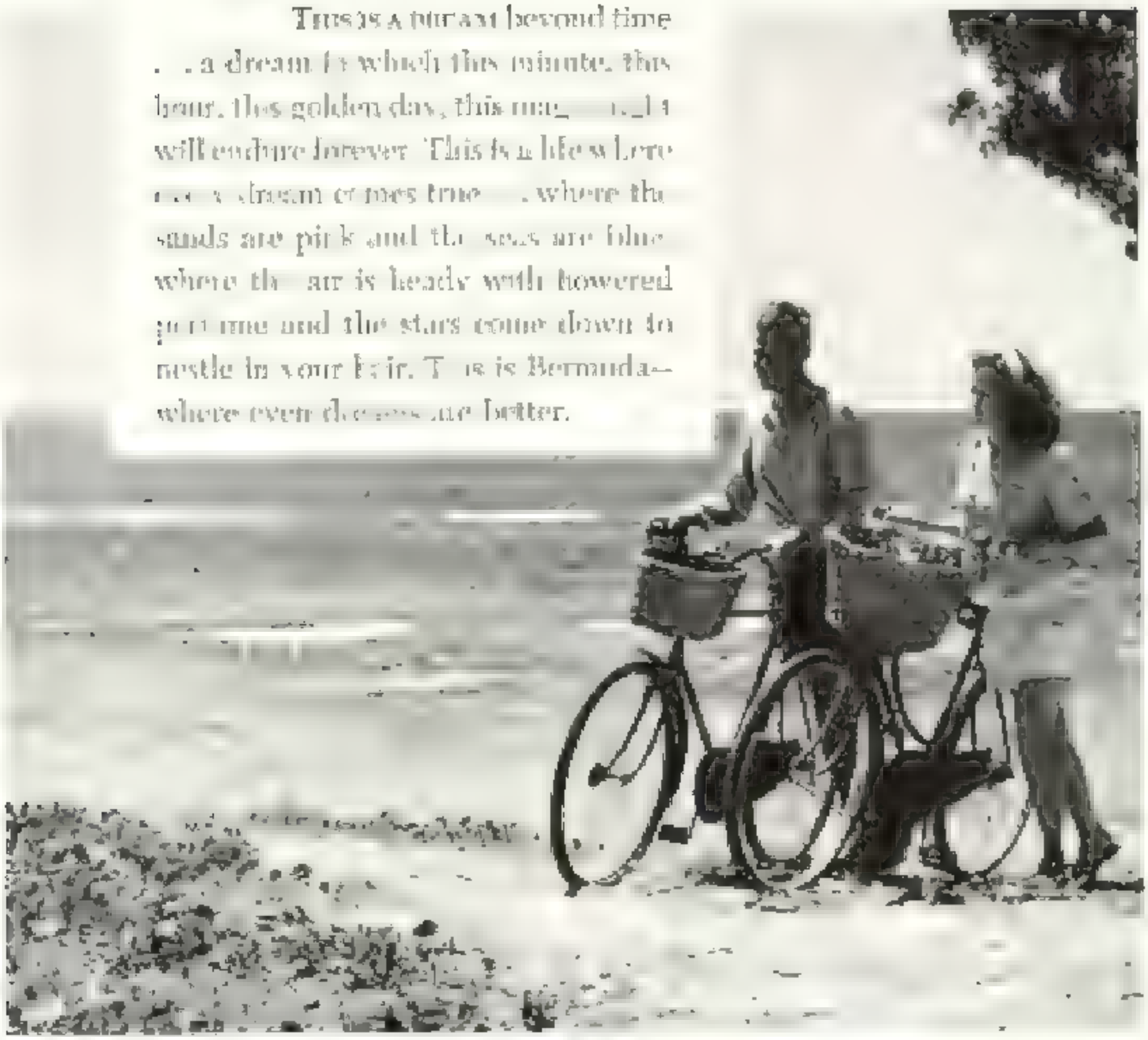

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Classic Greece & the Aegean: [illegible] from the March and May, 1944, issues of the NATIONAL GEOGRAPHIC. Features 32 [illegible] with descriptive text reconstructing life in Ancient Greece. There are 16 photographs in NATURAL COLOR, 40 in full colorprint, three in [illegible] Independent to students and teachers [illegible] *United States and* [illegible]

Saboteur Mosquitoes: [illegible] of "Saboteur Mosquitoes" and "The Story of the Mosquito" from the February [illegible] NATIONAL GEOGRAPHIC. [illegible] from life. 18 pages, 7 x 10 inches [illegible] *United States and Possessions. Elsewhere* [illegible]

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1. Choose the outdoor exercises that are best for you.

Summer weekends and vacations are ideal times to enjoy healthy outdoor exercise. You should, however, be careful not to over-exercise.

The businessman in the middle years of life who works in an office all week and over-exerts on weekends may do himself more harm than good. So choose activities that are suitable for your age [illegible], and your doctor for advice about the exercise you can enjoy safely this summer.

2. Follow common sense rules for safety in the water.

Swimming is excellent exercise, for you use nearly every muscle in your body — but every swimmer should remember a few precautions.

It's best to swim where there are lifeguards, as even the strongest swimmer may suffer a cramp and need help. After a full meal, it's wise to wait two hours or so before you go in the water; and prior to diving, find out if the water is deep enough for safety.

3. Be careful about getting your summer sun tan.

Sunburn can be painful and serious. For a safe tan, doctors usually recommend starting with a short period — about 10 minutes, and gradually lengthening the time of exposure.

While most sun tan oils or creams help you tan safely, you may still get a sunburn if you stay too long in direct sunlight. Over-exposure to the sun, especially when you are [illegible] strenuously, can also lead to sunstroke, or heat exhaustion.

4. Remember that many summer hazards can be avoided.

A bad case of poison ivy can spoil your vacation. So learn to recognize this plant, and stay away from it. If you give prompt attention to [illegible] and bruises, you can help prevent the start of infections.

In spite of all your precautions, accidents may still occur, so it's wise to have a well-equipped first aid kit available. In addition, following the rules of good health will also help you to a happier summer.

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[illegible]

[illegible] the queen [illegible]

[illegible] that Anna [illegible] the King of Sa[illegible] conducted the ritual of the [illegible]

[illegible] sat on his throne, the King threw [illegible] hours. In some of them [illegible] contained [illegible] the pieces of jewelry. Others contained slips of paper [illegible] bolder [illegible] used [illegible] by the King.

A few [illegible] attention [illegible] of these [illegible] would come [illegible] of. But most of them weren't that [illegible].

Now, in the years [illegible] no kind [illegible] lucky [illegible] less [illegible]

[illegible] no man made [illegible] Fortune [illegible]

[illegible] life [illegible] you can [illegible] your [illegible] could otherwise be obtained only at a fortune of saving.

[illegible] are [illegible] Life Protection [illegible] insurance power [illegible] the face value of the policy during the first [illegible] years [illegible] And that's [illegible] with children needs [illegible] most protection.

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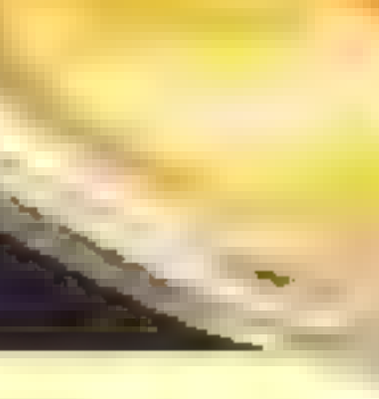

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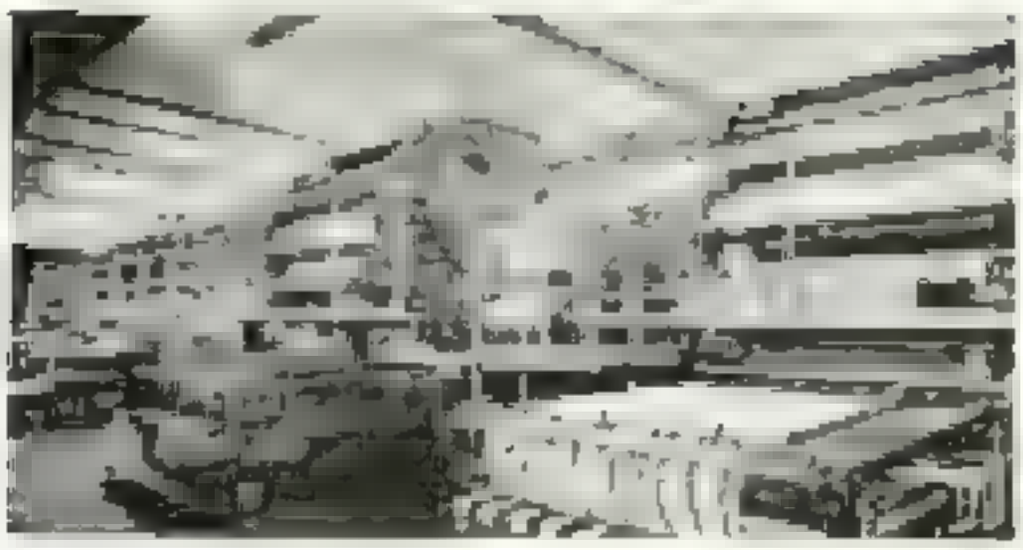

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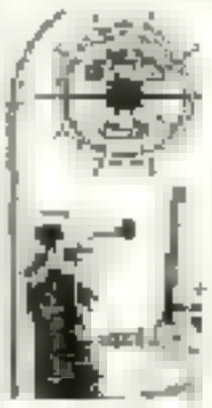

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